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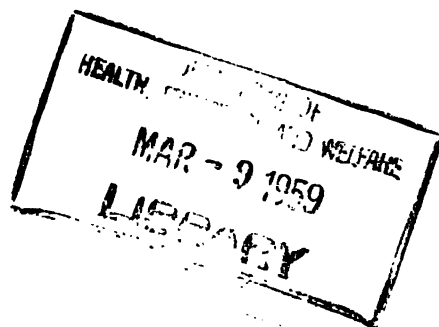
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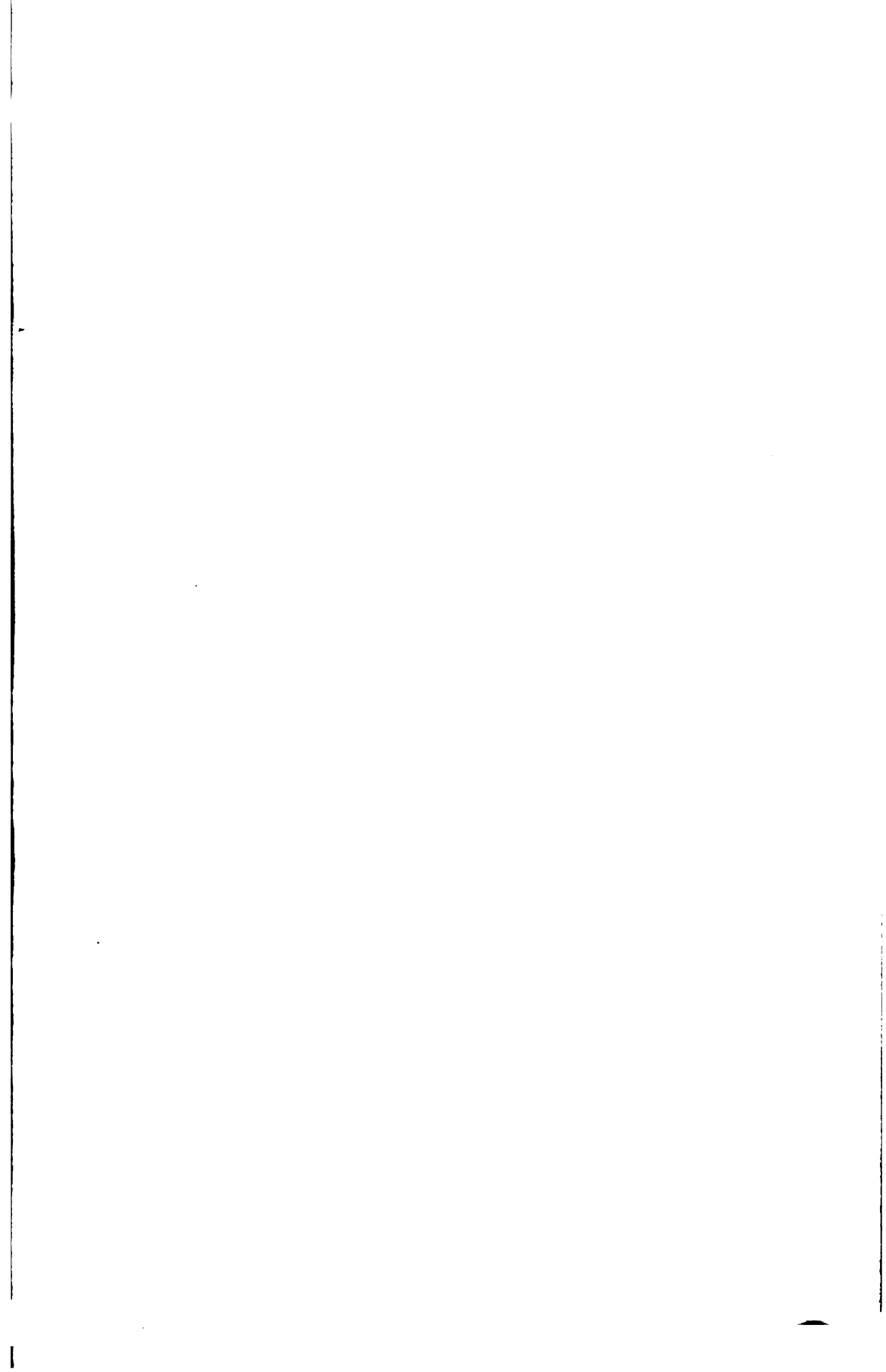
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Indiana School Journal

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VOLUME XLIV.

INDIANAPOLIS, INDIANA.
ROOM 132, COMMERCIAL CLUB BUILDING, S. MERIDIAN STREET.
1890.

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36/9/16

INDIANA SCHOOL JOURNAL

VOL. XLV.

JANUARY, 1900.

NUMBER 1.

A SUMMARY OF PREYER'S OBSERVATIONS ON THE MIND OF THE CHILD.

E. B. BRYAN, ASSOCIATE PROFESSOR OF PEDAGOGY, INDIANA UNIVERSITY, BLOOMINGTON.

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Passing on from the new-born child which was the subject of discussion in the last paper, let us find what its development is from the first days through infancy and early childhood. What development has the child made and of what things is he capable at the time he enters the kindergarten at the age of three or four? Perhaps the most careful observations made upon a child from birth through these early years are those of Professor W. Preyer, of Jena. In this paper I will try to get together in readable form the results of his observations.

I. Eye Development.—Five minutes after birth slight sensibility to light. Second day, sensitiveness to light of candle. Sixth day, pleasure in daylight. Ninth day, sensitiveness greater at waking than soon afterward. Sleeping babes close the eyes more tightly when light falls on the eyes. Eleventh day, pleasure in light of candle. On the twenty-third day, pleasure in sight of rose-colored curtain was observed. From first to eleventh day there were irregular movements in closing and shutting the eyes. Twenty-fifth day, eyes opened and shut when child was spoken or nodded to. The movements of the eyes at first were from right to left; irregularity prevails through the third week. On the eleventh day the child directed the look toward the father's face and the light and looked upward. On the

twenty-third day active looking begins, and a moving light is followed. In the second month bright or highly colored objects give pleasure. Forty-second day, pleasure in sight of colored tassels. Sixty-first day, child looked at mother and gave cry of joy; the father's face made the child gay. Sixty-second day, look directed at a swinging lamp. Ninth week, accommodation for near and distant objects quite pronounced. Fourth month—ninety-eighth day, brow wrinkled when look is upward. Fifteenth week, winking is observed. Seventeenth week, objects seized are moved toward the eyes; grasping at objects too distant. Movements are no longer irregular and non-co-ordinated. Fourteenth week, follows person moving, also follows pendulum. Sixteenth week, gazes at sides and ceiling of its carriage. In the fifth month the child looks inquiringly, and its reach for an object falls short. In the sixth month winking is caused by a puff of wind in the face. At the end of the seventh month, opening and shutting of a fan causes opening and shutting of eyes; looks at flying sparrow; and accommodation is perfect. Eighth month, brow not wrinkled in looking upward; play of lid on hearing noises; eyes opened wide with longing; gaze turned in direction of falling object. Ninth month, eyes converged easily; objects that fall are not looked after, but slowly moving ob-

jects, e. g., tobacco smoke, are followed. Tenth month, brow invariably wrinkled at looking upward; convergence of lines of vision disturbed; objects thrown down are looked at. Eleventh month, child throws down objects and looks after them; new objects no longer carried to the eyes, but gazed at and felt; accommodation perfect. Twelfth month, pleasure in seeing men saw wood at a distance of more than one hundred feet. Fourteenth month, the child grasps at lamp above him. Twentieth month, first color tests; in the eighty-fifth week, no discrimination, neither in the eighty-sixth or eighty-seventh weeks; pupils very wide open and convergence easy.

From the twentieth to the fortieth week, the advances in eye development are chiefly made along three lines: (1) A better discrimination of colors until the child is able at the age of three years to discriminate all the colors except very pale and very dark ones; (2) a better appreciation of distance; (3) the mysterious, the novel becomes more and more attractive.

II. Ear Development. — At first the child is deaf, but on the fourth day hears noises like clapping of hands. Eleventh day, the child quieted by hearing father's voice; hears whistle. Twenty-fifth day, pulsation of lids at sound of low voice. Twenty-sixth day, starting at noise of dish. Fifth week, child does not sleep if persons walk or speak. Sixth week, child starts at slight noises even in sleep; quieted by mother singing. Seventh week, is frightened at loud noises and sensitive to musical tones. Eighth week, tones of piano give pleasure. Ninth week, sound of watch arouses attention. Eleventh week, head moved in direction of sound. Twelfth week, sudden turning of head toward sounding body. Sixteenth week, head turned toward sound with cer-

tainty of reflex. Nineteenth week, pleasure in sound of crumpling paper by himself. Twenty-first week, beating of gong enchains attention; disturbed by noise. Twenty-eighth week, gaze at person singing; joy in military music. Thirty-second week, quick closing of lids at new impressions of sound. Ninth month, winking and starting at slamming noise. Tenth month, head turned at noise. Eleventh month, screaming is quieted by "sh"! or by singing. Twelfth month (three hundred and sixty-third day), hears noise in next room and looks in direction of sound. Thirteenth month, child strikes keys of piano, and is pleased with singing of canary bird. Fifteenth month, child laughs at new noises, as gurgling or thunder. Sixteenth month, holds watch to his ear and listens to the ticking. Nineteenth month, hears watch on his head. Twenty-first month, dancing not rhythmical. Twenty-fourth month, child tries to sing and beat time. Thirtieth month, while eating, by chance puts hand to ear while kettle of boiling water stood before him, notices diminution in force of sound. Thirty-sixth month, musical notes C, D, E could not be rightly named by child, in spite of teaching.

III. Development of Taste. — The sensation of taste is doubtless present at birth, but varies among different children. On the first day Preyer's child licked sugar, and on the second it licked milk. On the hundred and fifty-sixth day, child refuses breast, having had sweeter milk. End of twenty-third week, milk of new nurse taken, also cow's milk and meat broth. Medicine taken at six months if sweetened. In the seventh month, new tastes cause play of features. One hundred and eighty-fifth day, cow's milk boiled, with egg, is liked. In the eighth month, the child has pleasure in prepared

foods. Ninth month, yolk of egg with cane sugar taken with expression of surprise; water and bread liked. Seventeenth month, surprise at new food.

IV. Development of Smell.—At time of birth strong smelling substances produce mimetic movements. Coffee and cologne make no impressions till end of fifth month. Sixteenth month, smell and taste not separated; flower is taken into the mouth. Same in seventeenth month. Eighteenth month, objects no longer carried to the month.

V. Organic Sensations.—From the first day the child showed, seemingly, pleasure in nursing, the bath, etc., and discomfort from cold, wet, hunger, tight clothing. It showed hunger by sucking movements, crying, restlessness. Cry differs from that of pain or satisfaction. Third to fifth week, the nipple pushed away with the lips when satisfied—the same of the bottle. Tenth day, smile after eating. Fourth week, signs of satisfaction—laughing, opening and half shutting eyes; inarticulate sounds. It manifested fatigue by crying and nursing. During the first month the child's sleep lasts about two hours and it sleeps about two-thirds of the time. Second month, child has pleasure in musical sounds; in sight of human faces; laughs reflexively; frets when hungry; shows fatigue after hearing the piano; sleeps three hours at a time, sometimes five or six hours. Third month, shows pleasure by smiling at its mother's face. Fourth month, it has pleasure in grasping at objects; three or four hours between meals; sleep lasts five or six hours; is astonished at seeing father after separation; smiles when well fed; shows joy in seeing image in the mirror. Fifth month, child shows pleasure in crumpling paper, tearing newspapers and rolling them into balls, pulling at glove

or hair, ringing of bell. Discomfort shown by depressing angles of mouth; goes ten or eleven hours at night without food; pleasure in grasping objects increases; its arms move up and down when it is nodded to; depression of angles of mouth and cry of distress caused by harsh address; hunger apparent in persistent gaze at bottle, crying and opening of mouth; astonishment at seeing father after separation and at sight of stranger. Seventh month, the child has pleasure in his own image in the mirror; he laughs when others laugh to him; cries from hunger and spreads out tongue; satisfaction shown by thrusting mouthpiece out. Eighth month, discomfort was shown by square form of mouth; craving for food shown by cooing sound; strongest feeling connected with appeasing of hunger; astonishment at new sounds and sights, at clapping of fan, at imitation of voices of animals. Ninth month, the child would strike its hands together and laugh for joy; shuts its eyes when something disagreeable is to be endured and turns its head away; shows fear of a dog. Tenth month, the child shows joy at lighting of lamp. Twelfth month, the child grunts as indication of pleasure; is greatly astonished at new sounds. In the fourteenth month, the child shows fear of falling and is greatly astonished at a lantern, and the sixteenth month shows fear of high tones. In the seventeenth month, the sleep period is prolonged to ten hours, and in the eighteenth and nineteenth months he laughs at thunder and lightning and fear of strangers ceases. In the twenty-first month, he showed fear of the sea; in the twenty-seventh month, astonishment was more seldom apparent. The child shows uncomfortable feeling through pity in the twenty-seventh month and weeps if human forms cut out of paper are in danger

ilation. Shows fear of pigs in the eighth and fear of dogs in the ninth months. In the thirty-seventh month, he sleeps from eleven to twelve hours and no longer day naps; in the thirty-eighth month, he is afraid of pigs.

Impulsive Movements.—The ear-ly impulsive movements of the child are the outstretching and bending of legs just after birth; contracting and bending of fingers; wrinkling of forehead; on the first day the arms and legs take the same position as before birth; in the second day the limbs are stretched after waking. In the second month, there are impulsive movements of the eyes before waking; twisting and raising of trunk; in the seventh week, the number of respirations per minute is twenty-eight. In the eighth month his nose becomes mobile and he strikes about vigorously. Impulsive movements of the hands are observed frequently in the eighth month, as are also stretchings of arms and legs, accompanying an utterance. In the twelfth month is an accompanying movement of the hand in drinking. In the sixteenth month, the child raised his hand to the eye while sleeping and there were accompanying movements of the fingers while drinking.

VII. Reflex Movements.—Some of the earliest reflex movements are the "first cry;" movements due to light impressions; sneezing of the newly-born; coughing of the newly-born; yawning seen on the seventh day; first day, hic-cough; first five days, choking, wheezing and yawning; seventh day, respiration irregular; ninth day, claspings; tenth day, lips protruded; twenty-fourth day, snoring. In the second month there was reflex movement of the right arm when left temple was touched; forty-third day,

sneezing caused by witch meal; fifth week, vomiting; eighth week, laughing caused by tickling. Respirations were twenty-seven to the minute in the thirteenth week; hiccough frequent, stopped by use of sweetened water. The right hand was regularly raised to the right eye in the fourteenth week. On the one hundred and seventieth day, sneezing was caused by blowing on the child; sighing appears in the seventh month. Number of respirations (in fever), forty and forty-two a minute, and in the tenth month it begins to inhibit reflexes. In the sixteenth month, respirations in sleep are twenty-two to twenty-five per minute. In the seventeenth month, the right hand is moved when the right nostril is touched. In the thirty-fifth month, there is a responsive movement in the sleeping child.

VIII. Instinctive Movements.—The first, second and third days, the hands are instinctively carried to the face; on the fifth day, the fingers clasp firmly; the toes do not; sixth day, hands go into the eyes; seventh day, pencil held with toes; ninth day, no clasping by sleeping child; at the end of first week, lateral movements of the head; third week, clasping with fingers, not with thumb. Seventh week, clasping not yet with the thumb. Eleventh week, pencil held, but mechanically; thumb not used in clasping; head balanced occasionally. Thirteenth week, head tolerably well balanced; no voluntary movements. Fourteenth week, hands hold objects longer, with contra-position of thumb. Fifteenth and sixteenth weeks, no intentional seizing. Seventeenth week, efforts to take hold of a ball, ball moved to eye and mouth. One hundred and eighteenth day, frequent attempts at seizing; following day, grasping gives pleasure. Fourteenth week, head seldom falls forward. Sixteenth week, head held up permanent-

ly. This is the first distinct manifestation of will. Fourteenth week, the child sits, his back supported. Eighteenth week, objects seized are held firmly and carried to the mouth. Nineteenth week, child feeds himself meat. One hundred and twenty-third day, lips protruded in connection with seizing. Twenty-second week, child raised himself to sitting posture, and in the twenty-third week, was pleased at being placed upright. Child places himself upright on mother's lap the twenty-eighth week. Thirty-second week, seizing with both hands more perfect; legs stretched up vertically; toes carried to the mouth. Ninth month, the child grinds his teeth and stands unsupported (unusually early). Forty-third week, bread crunched and swallowed; child turns over when laid on face; tries to walk. Forty-fifth week, child grasps at objects behind pane of glass; great gain in moving muscles of arm; shreds of paper are handled; bites his

father's hand; smacks his lips; sits upright; stands and stamps, but only for a moment. Forty-third week, the child creeps, and in the fifty-fourth week the child walks with support and creeps, but not in a straight line. Fifty-seventh week, he hitches along on hands and knees; can not walk without support. From the sixteenth to the fortieth month, the child perfects movements of hands and feet until he can begin to dress himself and protect himself with his hands, and can run, skip and dance a little.

In the next paper, I will discuss the inner development of the child during these same years by noticing expressive movements, imitative movements, interpretative ability, speech, intellect, and feeling of self. For fuller treatment, see Professor W. Preyer's (1) *The Development of the Intellect*, (2) *The Senses and the Will*, of which this paper is a mere abstract.

ART AND NATIONAL LIFE.

JOHN L. LOWES, PROFESSOR OF ENGLISH LITERATURE, HANOVER COLLEGE.

Of the vital connection between education and national life, there can be no doubt, certainly not since the appearance of Fouillee's remarkable book. And it is well worth while to consider whether, out of the recognition of this relation, there do not emerge certain principles that will help bring order into our sometimes rather chaotic ideas regarding the true function of art in the public schools. To make clear, if possible, a few of these guiding principles is the object of this paper.

What is a nation? In 1808, Fichte, in that Address to the German Nation, whose echoes have not yet wholly died away, pointed out that the Nation, the

Fatherland, lies far above the State. "The State means the assurance to its citizens of justice, of peace within their borders, of the right of everyone to win through industry his livelihood. * * * But all this is only the means, the condition, the scaffolding of that which national life really stands for—the unfolding of the eternal and the divine in the world, always purer, completer, more harmonious, in endless evolution." That asserts two things: First, that there really is something of the eternal back of the shows of things; second, that the nation is the embodiment of its part of that. Are they true? Does Greece stand simply for the struggles and achievements of a bril-

liant, versatile, beauty-loving people; or after all, is it the incarnation, the embodiment of an eternal principle that through it lives and works to-day; one step in that unfolding—his word is “*aufblühen*”—of the eternal and the Godlike in the world, of which Fichte speaks. Is Rome just the story of a mighty empire, of its wars, its laws, its vast buildings, its splendid roads; or is it, too, the incarnation of what through it is potent in the world to-day—a vivid energy, an organizing force? What of the Hebrew? Of Venice? Of Florence? Is it not true that the conception of a nation as a force that stamps itself upon and moulds the centuries, is gaining ground, so that no longer our first question is, What wars, what intrigues, what rise and fall of kings and ministers; but, What does it stand for, embody, for the world, of the eternal verities? If that be true, for our purpose it means two things.

First, the nation must always be itself; that is, it must translate its message into its own language; must embody its meaning in its own form, and not another's. Think of the Renaissance, that great awakening that swept up over Europe in the fifteenth and the sixteenth centuries. It touched Italy, and Italy expressed herself in warmth of color and grace of sculptured line—and that because it was Italy. It had awakened France, and there, instead of form and color, “as at some sunrise, all the world grew vocal and musical.” and there had been the Troubadour, and the sunny Chivalry of Provence—and that because it was France. It passed to Germany; and there we find, not glow of color, nor gleam of marble, not lilt of song—even though there were the master singers and Hans Sachs—so much as something deeper, sterner, and more mystical; and so there was the trumpet voice of Luther,

and the Reformation—and that because it was not France or Italy, but Germany. It crossed to England, and there was none of these—save that the Reformation showed itself in change of outward form—but instead the spacious days of great Elizabeth. Each spoke its message as it was given it to speak; and so it must always be. The nation must be itself.

But, second, it must always express, in itself, something above and beyond itself. Victor Hugo makes it the function of History “to paint under the man of to-day eternal humanity.” So, above and beyond and through national life is the ideal, often unconscious, for which it stands. We all know how recent events have made it the question of questions for us—not the tariff, not free silver, not this issue nor that issue, but just this: What do we, as a nation, stand for; and are we, or are we not, embodying our ideal?

What, then, is the relation of Art to national life? In giving the one, I think I have given the other. For Art is just the fullest working out of what has been said; is, in a word, the interpretation of the age, of the nation, in terms of the eternal. One might almost say that the highest Art is just the highest national life coming to self-consciousness; that what the nation, in its mighty collective life, carves in lines that sometimes need the perspective of long centuries to read, the turn of an arch, the massing of the serried lines of an epic, the sweep of the procession on a temple frieze, strikes into instant, vivid life, as the essence of what that nation is. The best of what national life embodies finds its truest expression in the nation's art.

From this two corollaries follow: First, there must be a nation before there can be great Art. It was when the dauntless lines at Marathon and Thermopylae had

flung back and shattered the brute force of the Persian myriads, that Greek life was fused into one, and out of that grew the age of Pericles. It was when Rome had fought its way out from between the upper and nether millstones, Etruria and Magna Graecia; had subdued its mighty rival across the sea, and made itself mistress of the world, that its golden age was ushered in. It was amid the intensest municipal life, when the city was the nation, that Michelangelo and the great Florentines carved and sang and painted and made their town immortal. It was when the two great streams of Saxon and of Norman had converged, when a common enemy united warring factions, when Shakespeare could sing of his England as—

“This happy breed of men, this little world,
This precious stone set in the silver sea,
This blessed plot, this earth, this realm, this
England,
This land of such dear souls, this dear, dear
land,
England, bound in with the triumphant
sea”—

then it was that England found her highest Art; then, and when under another queen a wider national unity has brought her new development. Should not the next question be about ourselves? Is not the reason why we as yet have no truly national Art simply this, that only now are being laid for us the foundations of a real nationality?

But action implies reaction; and so there must be great Art to bring a nation to its highest development. “Every nation,” says Goethe, in *Dichtung und Wahrheit*, “if it will count for anything, must have its epic; for which,” he goes on, “there are other forms than that of the epic poem.” The strophes of Rome’s epic were not always in the stately lines

of the hexameter, but often in the statlier lines of roads and bridges, exalting the valleys, and bringing low the mountains, making the crooked straight, the rough places plain, and preparing in the deserts a highway for the Lord. But it did the one as it did the other, and the hexameters grew more majestic as the roads that centered at the Golden Milestone reached ever further east and west; and the stately march of the hexameter inspired and was inspired by the tread of Roman legions over Roman roads. And it was Rome that spoke through both.

Must we too have our epic? “I say,” writes Walt Whitman, in his *Backward Glance o’er Traveled Roads*—“I say no land or people or circumstances ever existed so needing a race of singers and poems differing from all others, and rigidly their own, as the land and people and circumstances of our United States need such singers and poems to-day and for the future. Still further, as long as the States continue to absorb and be dominated by the poetry of the Old World”—and this applies as well to other fields of Art—“and remain unsupplied with autochthonous song, to express, vitalize and give color to and define their material and political success, and minister to them distinctively, so long will they stop short of first-class nationality and remain defective.”

And so, in the rest of what I have to say, there are three things I wish to make clear: First, that for every nation, Art is the interpretation of its national life; or in other words, that life as that nation lives it, is the true subject of national Art; second, that this interpretation must none the less be in terms of what is everlasting; and third, that both these principles throw light upon the function of Art in education.

I.

Art is the interpretation of the nation, of the age. And that means that there must be no divorce between Art and life. "Beauty," says Emerson, in that essay on Art which all of us need to know, "beauty must come back to the useful arts, and the distinction between the fine and the useful arts be forgotten. If history were truly told, if life were nobly spent, it would be no longer easy or possible to distinguish the one from the other. * * * Beauty will not come at the call of a legislature, nor will it repeat in England or America its history in Greece. It will come as always, unannounced, and spring up between the feet of brave and earnest men. It is in vain we look for genius to reiterate its miracles in the old arts; it is its instinct to find beauty and holiness in new and necessary facts, in the field and the roadside, in the shop and mill." And it is just the idea that the highest Art is, ever has been, ever can be "some pale, remote virgin, who must needs shiver and withdraw at the touch of actual life," who reveals herself to a few select votaries, initiated into her sacred mysteries, that has done more than all other ideas to make the word Art, like the word Culture, a shibboleth of the few against the many. Art, for the schools as for anywhere else, belongs to life, and draws thence, as well as thereto gives, its inspiration. That this is no mere theory, perhaps some concrete facts will show.

Let us start with what is seemingly the most remote. Is it true that in the best architecture, it is the life of his nation, of his times, that has always given the artist his first message?

Consider, first, architectural decoration. Look at the ceiling or walls of the next church or public hall you enter, and note what you find. Unless it is an excep-

tional case, it will very likely be a design whose motives run back to the Egyptian lotus, to the Greek acanthus, or the egg and dart, or to the Moorish arabesques—sometimes to one, often to all, and to others besides. Now recognizing once for all the immense historic interest of this influence of other races on our Art, let us notice just one thing. It was their own native lotus blossoms that gave to the Egyptians the capitals that crowned the shafts whose form their own papyrus had suggested; it was the thorny acanthus of their own hills whose leaf the Greeks adapted to their columns; while in a land of pomegranates and of lilies of the valley, the chapiters of the Jewish pillars were of lily work covered with pomegranates. But because they used what was about them and found it good, must we go on imitating their results, instead of rather doing as they did, and finding out what lies about ourselves? The mediaeval builders often taught us that—witness the hawthornes of Bourges Cathedral, and the hounds and horns of the Lombard architects.

Have we nothing of our own? "Only the other day," says Chas. C. Perkins, "we entered a greenhouse, and there saw a species of lily (*Pancratium*) indigenous to Florida, whose conventionalized form would make the gas-burner, that most prosaic of all household objects, poetical. The rim of its pure white calyx was set around with straight filaments of a delicate yellow, whose ends were slightly bent outwards; and its base, where the cup met the stalk, was fortified with long, narrow pendant flower-leaves like flying but-tresses. Such plant forms might be used as the basis of a system of ornament as peculiar to ourselves as that which the ancients derived from their flora." Come nearer home. I quote from the Indian-

apolis Journal of February 17, 1899: "In the exterior decoration of the Law Building are entirely new ideas. Mr. Gibson, the architect, with a view to making the building partake of an American architecture, resorted to a decorative scheme that has not only furnished striking effects, but has drawn its theme from Marion County flora. Up along the towpath the arrow-shaped lily plants to be found in the low lands between the river and the canal are a part of the natural beauties of this attractive stretch of scenery. These lily leaves the architect has studied carefully, and after noting the curves of the leaves and the peculiarly graceful, flowing effects of them, he has worked these into no less than thirty-five designs, each different in its scheme, yet all following the central idea of the leaf. Those designs have been reproduced in the terra cotta blocks which make up the front of the building, and every decorated block in this extensive front is marked by some idea from the towpath lilies." Add to that Herbert Adams's use of native flower forms in the borders for the bronze doors of the Congressional Library, and then consider whether at least one function of art, along with literature, in our schools, be not to train our children's eyes to see, in things like these, the infinite possibilities for beauty of the world in which they live—of their fields, their streams, their forests?

The same principle is further seen in the use by the great architects of the materials they have about them. John Addington Symonds has pointed out how in many instances the geology of a neighborhood has determined the picturesque features of its architecture—how the clay fields of the Po produced the brick work of Cremona and Pavia; how to their quarries of *mandorlato* the Veronese

builders owed the peach-bloom colors of their columned aisles; while Carrara provided the Pisans with the mellow marble for their Baptistery and Cathedral, and the *pietra serena* of the Appenines added austerity to the interiors of Florentine buildings. And that is true not only of the north Italian towns, but of the noblest buildings the Continent over, from Paestum north to Lindisfarne.

And when in the schools we teach the principles of art, should not a feeling be created of the truer beauty, the dignity of fine sincerity of buildings that thus grow out of their own soil, so that Emerson's words have for them real meaning, when he declares that

"Earth proudly wears the Parthenon
As the best gem upon her zone,
And morning opes with haste her lids
To gaze upon the pyramids;
O'er England's abbeys bends the sky
As on its friends, with kindred eye."

It's because those gray walls rise of English stone out of English soil, surrounded by the same sward, bent over by the same trees, seen against the same sky as her rocks and cliffs, that Nature has made them her own, as she has. Think of the glowing front of Saint Mark's in Venice, or of the shaft of sunlit jasper that Giotto raised in Florence, transferred to the background of an English sky! Or think of the gray mass of Canterbury against the shimmer of Venetian lagoons!

But we compass heaven and earth to bring marbles from Carrara and Paros and the whole world over, to paste in slabs on the walls of our hotels and public buildings and millionaires' palaces, when all about us is a wealth of native material, waiting to give our work the beauty of sincerity—the beauty of marble if it be marble, of granite if it be granite, of steel if it be steel. And surely that is some-

thing most profoundly worth the learning.

Further, the fact that Art is the interpretation of the age appears, in the noblest architecture, in the harmony of form and purpose. For so far as possible, every building ought to be the expression of its use—really and truly “the outward and visible sign of an inward and spiritual state.” The history of the church is written in a thousand changes of the structures it has built. Take but one. The cathedral of the Middle Ages served as setting for the mass, and so it carried the eye, between stately columns, under vaulted roof, to where, beneath some towering altarpiece, were seen the twinkling of innumerable candles, the solemn moving of banners to and fro, the rising of slow clouds of incense smoke. It was built for sight and not for hearing. On the other hand, the function of the modern Protestant church building is mainly to make audible the spoken word; and so its form is passing from the old and steadily approaching a new type, that bodies forth the change. The principle applies no less to school, to library, to residence. Even our twenty-story office buildings will be truly beautiful, so soon as they are made the best expression of their purpose. They stand the visible symbols of conditions that belong to life, as life is being lived in our great cities; the embodiments of “the soaring endeavor and regulated audacity which are special qualities of American character.” To recognize them frankly just for what they are, and make them that, will give them their true dignity and worth. To treat them as something else than that, by applying what was good in mediæval fortress, continental opera house, Gothic cathedral, or Chinese pagoda, to that which fills the office of none of these,

is to add still more monstrosities to our already growing list.

But nowhere else does this broad principle hold good as in the architecture of our schools. The question must not be, What sort of buildings house the English public schools, or those of France or Germany? It simply is, What does our school work need? To make the building first of all the best expression of that, will be to give it its true beauty. Lacking this, all the granite and marble we can use without, all the pictures and statues we can put within, will only make the darkness visible. In the harmony of the building with its purpose; in the tints of walls that soothe instead of dazzle weary eyes, and form a fitting background for what else may be upon them; in ventilation that alone makes the fulfilling of its purpose possible; in a simple beauty and dignity of structure that awakens in the child the feeling that its hours of work are worthy of as noble home as are its hours of rest; in the growing recognition of the school as a center of outreaching influence—in what these stand for lies the first step, without which all the rest are under hopeless handicap, that art in the public school must take.

When steps like these are taken, be the building what it may, something else, the subtlest of all qualities, will come—character. And it will come in no other way. The English cathedral—long, low, loving the ground, embowered with trees, surrounded by the homes of bishops, deans and canons, “cautious and self-restrained in all its lines”—stands, as someone has said, for good, strong English prose: is Saxon to the core. The French cathedral—lofty, soaring, imaginative; “full of passion and of fire; mysterious, awe-inspiring”—stands the very poetry of architecture; bears the Celtic touch on

every stone. All Venice is in the Doge's palace; all Florence in the Palazzo Vecchio; to show that, is one use their photographs may serve. And we shall build our character into our work, and that in a thousand ways, when that work is the sincere expression of what our time and place demand.

All of which does not mean that architecture should be added to the subjects to be studied in the schools. It does mean that architecture throws some light upon the function that all art teaching, be it in what form it may, should serve—the office of training eye to see and hand to execute, where possible, the need, the truth, the beauty, of whatever life is given us to live.

Do painting and sculpture yield the same results? This is no place for a discussion of the problem of the proper subjects for the painter's or the sculptor's art. One thing alone we must keep in mind, for the present purpose — that the painter's business is to give not merely fact, but the soul of fact. But it must be his fact, whose soul he gives.

Let us take first what seems to be exceptional. You may say, Look at the work of the great painters of the Renaissance; it is all Madonnas, saints, angels. There is heaven; there is hell. But earth? If at all, the earth of days then long gone by—Look more closely. For it is just the struggle to get back of saint and angel to one's own life, to what is tangible, to what one's eyes have seen and one's hands handled, that lends to the art of the Renaissance one of its most distinctive qualities. Is it the Last Supper? As Veronese sees it, it is a stately banquet in a Venetian palace; as Jan Steen sees it, a Dutch drinking bout. Is it the Madonna? Del Sarto's Virgin is his wife; and for Botticelli is that Simonetta whom he saw

in the spring; and for Raphael her name is Legion, for she is many. And even Fra Angelico must paint her seen against the pillared walls of the San Marco that he loved; and the two disciples at Emmaus are his brother monks. And more than that, it is between the figures of angel and Virgin in some Annunciation; over the shoulders of the kneeling Magi in some Nativity; behind some wistful-eyed Madonna with her wondering angels, that are seen the loveliest landscapes in the world—to one, at least—the landscapes of their boyhood days, that to Tuscan, Umbrian, Venetian painters, all alike, served as the earthly background to their visions of another world.

Pass over the centuries between. Whence do Millet and Jules Breton and their school draw inspiration? Look at the mural paintings that in this country are helping—the best of them—to make our buildings symbols of their use, “living epistles, known and read of all men.” Is it a courtroom? Study Simon's frescoes in the criminal courts building in New York. Is it a bank? There is Blashfield's painting in the Bank of Pittsburgh, of the city offering her iron and steel to the commerce, industry, navigation and agriculture of the world; and because the city is the center of rich farm lands, too, on the other wall is F. D. Millet's Thesmophoria, the lovely harvest festival that moves through fields of ripened grain. These are merest hints of what even a study of good photographs will show—that the painter, like the architect, is and must be the interpreter of his times.

And let me pass for just a moment to an application of all this—to its relation to the truest patriotism. We need not go to Greece and Rome; to frieze and pediment, arch and column, for our illustra-

tion. Take simply Germany. As you sail up the Rhine, on the wooded heights across from Bingen stands the colossal statue of Germania, with all the German heroes from Hermann to Von Moltke ranged around her. In the Thiergarten in Berlin, from the great column made from the French cannon you walk along the Avenue of Heroes, between the statues of the men whom Germany delights to honor. Nor do the greater cities stand alone in such appeals; but Weimar has her statues of the men who put her name with those of Florence and Geneva—of Goethe, Schiller, Wieland, Herder, Liszt; and Eisenach honors Bach and Luther; and Jena its philosophers; and civic pride is made to strengthen love of fatherland, the country over.

Have we no history to inspire our art? You may say it is prosaic, it is trite—if it be that, God pity us!—it is not adapted to artistic representation. Suppose it does seem so; and it is greatly to be feared that to most of us it does. What ought our painters, sculptors, architects, to be but the revealers, the interpreters, of just that national life which sometimes seems so commonplace? And to be revealers means that they have more to do than to repeat bare facts of history; more than to paint and repaint Bunker Hill and Valley Forge and Gettysburg. It is to give the soul of fact; the thought of which the thing is only symbol. When Polygnotus was called on to design the pediment for the temple of Athena at Plataea, to celebrate the part the little city took in beating back the Persian hosts, he made no reproduction of the battle ground. He took from the Odyssey the incident that every Greek boy knew by heart, of Ulysses' victory over the wooers—the one against the many—and so invested two great national stories with a meaning

neither had alone. That was to give the soul of fact. And so, when once the Medici were driven out of Florence, the Florentines, in memory of the event, ordered made no portrait busts of their deliverers. They took the statue Donatello once had made of Judith with the head of Holofernes, and set it up in the Piazza, and carved beneath it these laconic words:

EXEMPLUM SALUTIS PUBLICÆ CIVES
POSUERUNT.

Nor did the symbol stand in need of commentary. Go through the ducal palace at Venice, and the constant recurrence of two themes will likely strike you—the one, the city of Venice as a proudly beautiful woman enthroned above the world; the other, no less frequent, the proudest of her Doges, in robes of state or armed for war, kneeling at the feet of the Virgin or the Christ. "It is the most triumphant city that I have ever seen," wrote Philippe de Commynes, in 1495, "and the one in which the service of God is most solemnly observed." And all her walls bear witness to both facts. What wonder was it that—

"Once did She hold the gorgeous East in fee,
And was the safeguard of the West."

Let Venice go. Will Pittsburgh not come nearer her ideal the more her buildings make appeal, as one great bank has done, to civic pride in other than material things? Is not the very spirit of the noblest sacrifices of the Civil War in the Shaw monument, as no bare story of the facts could ever give it? Does not George Barnard's colossal figure of the Hower give some hint of the sculptor's incarnation of the conquest of the continent? Enough there is, at least, in works like these, to show us how some day our own art, in our schools as elsewhere, may occupy its rightful place as the Interpreter of the House Beautiful, in which we live

to-day, even though as yet our eyes are often holden, that we do not see it.

II.

But the principle that art is the interpreter of life demands a check. Perhaps an illustration will make clear that something else is needed to complete its work. Here are a few lines from that one of our poets who, as yet, perhaps has clearest title to the name American:

"House-building, measuring, sawing the boards,

Blacksmithing, glass-blowing, nail-making,
coopering, tin-roofing, shingle-dressing,
Ship-joining, dock-building, fish-curing,
flagging of sidewalks by flaggers,

The pump, the pile-driver, the great derrick,
the coal kiln and brick kiln.

The brewery, brewing, the malt, the vats,
everything that is done by brewers, wine-
makers, vinegar-makers.

The pens of live pork, the killing-hammer,
the hog-hook, the scalding tub, gutting,
the cutter's cleaver, the packer's maul,
and the plenteous winter work of pork-
packing."

These are the facts of the artist's time with a vengeance; but is that Art? What is lacking? Place side by side with these lines another of Whitman's poems—so well known, happily, that I need not quote it here—"O Captain! my Captain!" What makes the difference? Each draws its theme from the life of the poet's time. But the one gives us that life naked and bare; the other stamps it with the seal of something above fact—the everlasting laws of beauty and harmony of form, that are the laws of truth as well.

"These shows all near you by day and night—
workman! whoever you are, your daily
life!

In them realities for you and me, in them
poems for you and me."

This is Whitman's justification of what he has done in the first selection I have given, but it is his condemnation, too. In these shows are poems—yes! But the shows are not the poems. It is only when they are translated into terms of something else, when fact is fused with form and form with fact, as in the second case, that the hidden poem is made visible.

"For every fiery prophet in old times,
And all the sacred madness of the bard,
When God made music thro' them, could but
speak
His music by the framework and the chord."

And so, while the artist's field is right around him, in life as it is being lived, the form and finish that he sets upon it are determined, must be tested, by laws that are above the touch of time. That is the second principle.

And that means that we have to learn not only from the present but from the past; not only from our own land but from other lands. Development, as always, must be from within; inspiration, fertilization come, as always, from without. And so our work is often provincial, because we fail to see that there are certain laws of form and harmony, certain canons of good taste, which are true and necessary, not because the Greeks observed them, or the Romans, or the Italians; but which Greeks and Romans and Italians all observed, as we must, just because they are eternal and inevitable. They saw them, and by them moulded their expression of their life. We read that expression, and through it learn the everlasting truths they learned—not to re-embody them as they did, and build our churches like Greek temples or Roman basilicas—not to imitate their statement of these laws, but to stamp the same laws upon our materials, our buildings, our times, until they

become beautiful too. The artist must make his music by the framework and the chord; but it must still be his own music that he makes.

And when we Americans learn—what our schools can teach us—along with our praiseworthy eagerness for results, to look first to the worthiness of the result, our art will be no less American, but more eternally human. And when we learn—what our schools can teach us—to curb our impatience of discipline, and recognize the everlasting law, of art as of life, that only in obedience is perfect freedom, our poems, paintings, statues, buildings, will be not one whit less original, but will have besides the stateliness and dignity that mark the forms that stay. And when we learn—what our schools can teach us—that, though it be the cardinal doctrine of our national creed that all men are created free and equal, it does not thereby follow that every man can be a law unto himself in matters of taste, so that, because John Smith, citizen, chooses to do it, it is therefore in accord with the eternal fitness of things to make the front of his fifteen-story steel cage office building imitation stone—when we recognize a standard of taste that admits no compromise, our Art will be not ours alone but all the world's beside. And it will be of all time, too, for, while

"All passes,
Art alone enduring stays to us;
The bust outlasts the throne,
The coin, Tiberius."

III.

A few applications of what has just been said.

First, the best service that our schools can render Art is to bring about the fullest development of our truest national

life. No nation has a richer heritage than we. We have the Saxon steadiness and homely strength; the Celtic love of beauty and imaginative insight; the Norman strenuousness and talent for affairs—plus something all our own, that we owe in part to climate, in part to our history, in part to something that eludes analysis. Once more, the best thing we can do for American art is to make American life as noble and rich as may be, by developing in every way our goodly heritage. To separate the pictures in our schools from the books and the life of the school-room, and that from the life outside the school, is not to further but to strike a blow at Art.

Again, the influence of art in education ought to be more and more away from the infliction on the public of dilettante painters of poor pictures; more and more toward true and beautiful designs to dignify the objects of use in daily life. There is in Belgium a "National Society of Arts Applied to the Streets and to Objects of Public Utility." In Municipal Affairs for March, 1898, you may see pictures of some of the nobly beautiful signs with which it has displaced the hideous old ones in the streets of Brussels. Its competitions are for designs connected with decorative facades, models of fountains, electric standards or poles, street name and number plates, guide posts, news stands, bill boards, park seats, street lamps, banners, posters, handbills. The Arts and Crafts Society in this country has the same end in view. Surely it is better to learn to design worthily for stained glass, or wall paper, or furniture, or any of the objects already mentioned, than to spend precious time in struggling over very poor copies of pictures that are forever beyond the learner's powers. For if the artist-stuff is in the pupil, the method just suggested will be sure to bring it out. And as for

the dignity of such work, read the history of Art. Or look at the household utensils that have been dug up from many an old Greek city.

In another way than those already mentioned the appeal that such a movement makes rests on historic ground. It was not kings and emperors, grand dukes and princes only, who made possible the splendid art of the Old World. Athens, Florence, Venice, Bruges, Nuremberg—every one of them owed its glory to the very men with whom we have to do to-day, to the magistrates, the merchants, the artisans. Here is a Florentine decree that is worth the reading: "Since the highest mark of prudence in a people of noble origin is to proceed in the management of their affairs so that their magnanimity and wisdom may be evinced in their outward acts, we order Arnolfo, head master of our commune, to make a design for the renovation of Santa Reparata, in a style of magnificence which neither the industry nor the power of man can surpass, that it may harmonize with the opinion of many wise persons in this city and state, who think that this commune should not engage in any enterprise unless its intention be to make the results correspond with that noblest sort of heart which is composed of the united will of many citizens." And the Duomo was built by taxes levied by the wool-guilds on all goods bought or sold within the city. Not only so, but the guilds together set up the magnificent church of Or San Michele, and to-day you can walk around it, and still see the statues of their patron saints—St. John Evangelist of the silk merchants, St. James of the furriers, St. Mark of the flax merchants, St. Eloy of the blacksmiths, St. Matthew of the stockbrokers, St. Peter of the butchers—and more of whom space fails to speak.

Nor was it different in those other north Italian cities with their vivid life; in all of them, cathedrals, city halls and monuments, were "the visible symbols of a triumphant, trading, fighting, intellectual and artistic democracy." It was so in Germany, it was so in the Netherlands—it is writ large on almost every building in Nuremberg and Antwerp—it was so in England. It is simply true that Europe's noblest monuments have been "of the people, for the people, by the people." And it is worth our while to note, in our eagerness for what is practical, that it is precisely the eras when facts are fused with feeling, when men live and move and have their being in an atmosphere charged with subtle influences that stir and vitalize imagination, that are no less in the material than in the spiritual world the greatest productive epochs. Witness the Athens of Pericles, the Florence of the Medicis, the England of Elizabeth.

And let us guard against supposing that Art in the schools will work in any magical way. Pictures on the walls will not make artists. Nor is the making of artists in any sense the function of the public schools. Their photographs and statues may create a desire, a love for beauty, and teach its guiding principles. They may awaken that genuine appreciation of the beautiful by which life is enhanced; by which, it may be, some shall pass to the production of the beautiful. Even this they will do, I think, only when they are parts of a consistent whole, so as not to emphasize by contrast smoke-stained walls and stifling atmosphere.

And, above all, they must be the very best. Unless they are that, bare walls are infinitely better. What the best are, is not within the province of the present paper to discuss. Accessible to all of us are reports of experts' studies of the whole

field of art, with a view to the selection of those works that are adapted to the purposes described. Already the movement has a literature of its own. And so, making due use of all the help that offers, learning from the best that has been done in all lands and all ages, the everlasting

laws of that beauty which is truth, and applying them to our life, here and now in America, we shall be doing our part toward making our national life ever truer and more beautiful, soul of it and body of it—and that is National Art.

LANGUAGE IN THE ELEMENTARY SCHOOLS.

GEORGE W. NEET, PROFESSOR OF PEDAGOGY, NORTHERN INDIANA NORMAL SCHOOL.

It will be the aim in the present paper on language lessons to give a concrete illustration of what a language lesson, in the light of our previous study, should be, then briefly to discuss its application.

The illustration is thought to show work well adapted to school children of the second or third year. The lesson correlates with the nature work and the subject of study is the blue violet. The time of the year is near the beginning of the spring term of school—the last of March or the first of April. The lesson is entirely oral.

These questions by the teacher are to bring out the discussion about the life of the violet. The children have been told to watch for the coming of the violets.

What kind of home has the violet? Does it live in dry ground or wet? Is its home in the sunshine or in the shade? Does it live in the woods or in the fields? Does it live in any other places?

How did you know where to look for violets? Were they there all winter? Could you see them in the winter? Why? Did Jack Frost kill all of the plant? Why could he not kill the roots? How could the soil, leaves and snow keep the frost from killing the little violet?

What part of the violet did you see first this spring? Why should the leaves come up first?

The teacher here tells the children that the leaves protect the flowers. They stand around the flowers like little soldiers. They are, also, the kitchen where all the food is prepared for the whole plant, flowers and all.

Where does the food of the violet come from? How do the roots get it from the ground? Do the little roots have mouths? Can you see the mouths on these I have in my hand?

The teacher here shows how the roots eat by showing how they could take up salt, or soda, or sugar dissolved in water.

How does this food reach the leaves? How would it come when the stem and leaves draw it up? What do the stem and leaves draw it up for?

What must be done with food in the kitchen before it is good to eat? Where do the leaves get heat to cook the food they have drawn up from the roots? Could the little leaves get along without the sun? Why?

When your mother cooks, what do you see rise from the cooking food? What makes the steam rise?

Here the teacher should explain to the children how steam rises from the leaves when they are preparing food. This may be done by putting a plant under an inverted glass tumbler, and showing the children the moisture which collects.

How did the moisture get out of the leaves? Can you see the little windows?

The teacher here tells the pupils that air goes through these tiny windows and mixes with the food before it is good to eat.

While the roots and little leaves are working away, what is the little flower doing? How does it look when you first see it? What happens to the little green cloak before you can see Violet's blue dress? How did Violet unfold her dress? Is it wrinkled? What has become of the green cloak?

Do all violets have dresses of the same color? What colored dresses have you seen violets have? How many pieces has Violet's dress? Would you like to know what name the pieces have? Can you remember that they are called petals? See if the petals are all the same size and shape. Who can find a pocket in one? What is in the pocket? Honey? It is called nectar. What do you think the nectar is there for? Can you think of anything that would like it? Bees? At this place the teacher should explain that the bees come to the violet to get the nectar, and that the bee thrusts its long mouth down into the pocket of the petal in doing this; that he gets flower-dust (pollen) on his head and long mouth; that this pollen comes from parts of the flower (the anthers); that it is to feed the tiny seeds so they will grow. The home of the seeds is to be examined and the process by which the pollen comes in contact with them. This can and must all be shown with the flowers in the hands of the children.

Enough has been already suggested for several lessons for second year pupils, but this work should be carried on entirely through the life history of the violet.

Then take up by starting with the planting of the seed, and worked through.

What has been given so far is based on the treatment of the violet in Dr. McMurry's "Special Method in Science," and to that the teacher is referred for further help on the subject matter.

The questions only are given, but the inference is easily made as to the nature of the work on the children's part. They engage in a free, open, interesting, and spirited talk.

It is to be noted that the above lesson is adapted to (1) develop thought and feeling; (2) induce to communication of this thought and feeling; (3) furnish opportunities to quietly and kindly give the correct forms in language, since the children in such interesting discussions make many errors.

It is again to be noted that the above lesson is in harmony with the principle that the child best masters the language by dealing with it with his mind engrossed with the object of study.

And lastly, it is to be noted that the above lesson is in pursuance of the purpose of language lessons to this extent: The child is learning to use good English just in the way he will use it all his life, to the end that he may fix the habit of communicating his thought and feeling in correct, clear, elegant, and forcible English. And this is the primary distinctive aim of language lessons. This lesson is also in harmony with the two aims which language lessons have in common with every other school subject: (1) Good exercise in systematic thinking to the end that the pupil may become a ready and accurate thinker—mental discipline; (2) the acquisition of knowledge valuable for guidance in right living.

The lesson is oral and so does not aim

at correct habits in written communication. Neither does it aim distinctively at laying a basis for the pursuit of higher

language subjects. Lessons specially adapted to those two purposes will be illustrated in a subsequent paper.

SOME OF THE FACTS OF ADOLESCENCE IN THEIR BEARING UPON EDUCATION.

SANFORD BELL, DEPARTMENT OF PEDAGOGY, INDIANA UNIVERSITY.

Another one of the narrower and more intense emotions which is accentuated during adolescence is that which an individual has for a chum. This is an emotion which, as a rule, exists between individuals of the same sex. Special affinities act as principles of selection, and two boys or two girls become bosom friends without asking or knowing why. One of the things that helps to account for the increased tendency to chum is the fact that the adolescent feels himself misunderstood by his elders. The common life which he shares with his mate of the same age is the basis of a sympathy which enables each to share the life of the other understandingly and participatively. The new self, the rapidly changing, growing, young manhood or womanhood is beginning to establish relations with society from altogether a new standpoint—the standpoint of a *socius*. The experience is new. There are no past experiences of its own of a kind to furnish prudential insight, and the method of establishing a place in the complex social life environing him is a method of trial and error. He gets much from general social suggestion, but the trying thing with him, the serious thing with him, is just that of making this general thing individual by relating it to his own conduct. He must do it for himself; no one else can do it for him. In his effort to do so he will inevitably make many mistakes. This he feels rather than clearly sees. He feels that there is more or less of hazard in all of his ventures

into the great social life around him. But that life is his by racial inheritance, and he must come into possession of it. He is looking at life in prospect; his elders—parents, teachers, and friends—who have already adapted themselves to their social setting, are looking at life in retrospect. It is this difference in viewpoint which causes the estrangement between the adolescent and his elders, while the common viewpoint cements his soul to his mate. The retrospective view of the adult has the cold judgment that has come from experience, without the emotional tone of adolescence. In the adult's effort to be of use in the way of shielding the adolescent from error, he forgets this difference in standpoint and too often allows his advice to come in the form of unfavorable criticism. This unfavorable criticism—this standing in judgment from a high place—is one of the things which the young self of the adolescent can not stand. It is too tender for justice and must have much of mercy. It thrives upon favorable recognition and dies without it. This does not argue that parents and friends shall withhold criticism and abstain from giving the growing youth the benefit of their mature wisdom. It does not mean that the adolescent shall be indulged in caprice and willfulness. It does mean that the adult shall not perpetually be giving carping criticism, shall not always, nor in the main, have the unfavorable attitude toward youth. It does mean that the direction and guidance of-

ferred shall be given with kind sympathy, and patience, which are not at all incompatible with firmness. It is impossible for the youth to look at life from the adult's standpoint; it is not impossible for the adult, through reminiscence, and sympathetic participation in the life of the youth, to look at life from his standpoint. How sweet this mutual confidence between chums is and how much of life it is, is shown in the fact that these young people find so much in each other that they seem able for a time to live apart from the sympathy of the broader life around them. While the term chum is not so dignified as some others, it has a very definite meaning, and the emotion implied in the word is in essence the same as the ideal friendship found in such classic illustrations as those of Damon and Pythias, and David and Jonathan.

The fact that such friendships are mutually so inclusive and otherwise so exclusive, coupled with the fact that at this period of life the individuals are so highly susceptible to suggestion, makes it possible for one life to most powerfully affect the other. While it is true that much of the good of each is absorbed by the other, it is equally as true that evil is as readily taken in. A good companion may be a very wholesome influence; an evil one may be worse than death. It is a dangerous thing for two young people to be mutually so dependent for sympathy. It is indeed a most unfortunate circumstance that forces a youth, on account of a lack of sympathetic appreciation, to withdraw confidence from parent or older friend and repose it in one whose directive wisdom is no greater than his own.

This feeling of fellowship that begins to manifest itself so conspicuously during adolescence takes on all the forms from the extreme monopolistic type just de-

scribed to the broadest humanitarian sympathy. A little broader than the first type is that shown in all cliques, clubs, fraternities, and other similar organizations, all of which find their explanation, if not justification, in this universal craving for companionable sympathy. Such organizations can not be eliminated, and should not be if they could. They have their place in every life. The important question is that of so influencing the lives of the young people in this stage of development that they will not seek in these organizations opportunities for extravagant reactions. This can be done only by sympathetic participation by adults in the things that are naturally interesting to youth, and are legitimate.

This extreme susceptibility to the personal influence of intimate associates, parents, teachers and others, will be touched upon again in our discussion of the moral life of the adolescent. Here, we wish to call attention more particularly to the craving which the youthful personality has for a touch with other personalities than its own. The youth at this time is a hero worshiper. He loves and worships the good, great personalities, both in the real characters about him and in those held up by biography, history, and literature. From both sources he will select his own and love and worship them. He loves them, because they are concrete exemplifications of what he can become. His soul is ripe for influences that will count for very much in the formation of his character. What characters he chooses as ideals, what books he reads, are of greater concern now than at any other time in his life. I know a young man whose parents, on account of religious prejudice, had never allowed him to read fiction up to the time he was seventeen. When at this age he was crossing the State with a

friend of his own age, he was induced to buy a copy of "Phil Scott, the Indian Detective." He devoured it. He purchased "Macon Moore, the Southern Detective," and devoured it. For three months he had a mania for becoming a detective. The cunning, the adventure, the blood-curdling experiences in dens of crime, had a fatal fascination for him and he vowed he would be a detective all his life. His mother discovered the mistake she had made and began reading with him a class of high-grade fiction that held before the boy more wholesome ideals. Real life to the boys and girls in the adolescent period is often very prosaic on account of their home and social limitations, and their expanding soul hungers keenly for broader, richer and more varied experiences. The actual living through these experiences through travel and promotion into higher spheres being denied them, they substitute for it the world of ideality. The soul satisfies itself in a way by feeding upon the ideals held up to it in the living characters about it and the literature read. If the adolescent can't get the best, he takes what is at hand. Or, rather, since he has not the wisdom always to select the best, if that be not put in his way, he takes whatever happens there. Too often the ideals he selects from acquaintances and from literature, if he be unassisted by wiser heads than his own, have anything but a salutary influence upon the formation of his character. It is not without a basis that

we associate the youthful criminal offender with the yellow-backed novel and Police Gazette. Another kind of literature which is scarcely less vicious in its influence upon young people is the sentimental novel which holds before the reader a type of life which causes him to become dissatisfied with and disjointed from the life about him. The ideal held before any reader should have enough of contrast with the real to cause a desire for improvement; but while the ideal is in contrast to the real, it must be true to it. The novel that fails to better articulate the young reader with the life about him is a dangerous one. The novel that so affects the youth that he is unsympathetic and uncharitable in his attitude toward the home in which he was born and is being reared; the novel that tends to make the young girl shirk the ordinary duties of the home and leave mother the dishes to wash, the beds to make, the sweeping to do, and the children to take care of, while she is dissipating in the luxuries of a life entirely beyond her, is unsafe. I do not wish to deprive the youth of the ideal life held up by fiction, for that can be one of the greatest blessings that can come into their life. What I do recommend is that kind of ideal that will beget a charitable sympathy for the life of the home and society; that kind of ideal that will enable the young person more perfectly to adapt himself to the best life about him, that will effect participation, instead of disruption.

SENTIMENTALITY IN PRIMARY TEACHING

BESSIE EGGLESTON BLEDSOE.

To clearly understand the influence that sentimentality exerts on primary teaching, it will perhaps be best to define the aim of education, that for which we are striving, the end to be attained. That aim is the forming of character, and a more harmonious adjustment of life to the several institutions that make up our relations with man. As a member of a social unity, to mutually give and receive happiness, the child should have that broad sympathy with his environment that will make him unselfish, thoughtful of the rights of others, just and kind, striving to live an upright and pure life. Ultimately the aim of education is the development of the whole man, through his activities to place him in full possession of himself, where, released from all bondage of ignorance and superstition, he may come into complete realization of his unity with his Creator.

The method of educating children is still in the formative period; great awakenings to the psychological nature of the child have brought corresponding changes in all branches of study. The old manner of presentation was harsh, mechanical, analytic, but our tack to the other side, based on the natural interest of the child mind, has swung many an honest-hearted teacher into the sentimental view of fostering that much-desired interest.

It is not so often the end that is at fault, but her conception of the means to that end. She imagines that by creating a feeling of love, as such, in the heart of the child, for the individual objects of the universe, the plants, the animals, the literature, the great men, she is far on her way to the goal; but she is not. Even if

she succeeded in creating this universal affection, which she would not, the end would not be for the making of good character. It would be, however, either that abnormal, over-sensitive life of emotion that feeds upon its own feelings; or a very conscious and soft appreciation of one's own attitude as a lover of all things whatsoever, that much ridiculed attitude of the followers of the esthetic cult or estheticism of a few years ago.

But the inherent rightmindedness of a large number of her pupils would defeat this end. Even as small children they make discriminations of the relative values of things that would recognize this loving-everything attitude as a false one. This placing of angleworm, beetle, bird, dandelion, dog, George Washington on the same plane would be rejected by the good boy as well as by the bad boy as unnatural.

It is very necessary that the teacher clearly understands the true motive for teaching nature, otherwise she will find her work trending in one of two directions; either to an accumulation of isolated and unrelated facts, interesting as facts, but not giving the child the true conception of their underlying unity; or else she will simply strive to awaken a love of Nature, an affection for animal and plant life that will care for and preserve all living things. This result is very plausible and very pretty in the telling, but surely not the highest and noblest in the power of the teacher to bestow.

The true aim for the teacher of nature is, first, to give to the child acquaintance with the plant and animal life about him, and its wonderful adaptation to the ever-

changing conditions of environment, all life subject to the universal law underlying such varied manifestations; second, to bring to him a realizing sense of the harmony, beauty and unity in all things; to better understand the needs and the laws of his own being as reflected and answered in all manifestations of life; all plant and animal life bent on fulfilling the laws that govern them, and all alike showing forth the divine hand of their Creator; third, nature study is to develop the powers of observation, comparison and reasoning.

The accomplishment of this aim, will bring in its train interest and discerning care, and perhaps the love sought by the sentimentalist, but its basis will be the strong rock of true comprehension, and not the sliding sands of a sickly sentimentality. The scientist contends that the protection of life taught in the primary schools through nature work unfits the child for the later life of scientific investigation, but he does not fairly state the case. He says the child naturally pulls apart, dissects and examines, and that this is the requisite boyhood training for the future scientist. But he has been doing this unmolested for years and there has not been the resulting race of scientists. The nature work in the primary school is a recent innovation, comparatively, and so can not be the counteracting influence that has hindered the development of scientists; so probably his howl is premature. The robbing of bird's nests, the wholesale killing of birds, the pulling off the wings of insects, the torments inflicted on cat and dog, may be the intellectual inquiry of the incipient scientist, but it is more often the commonplace and cruel amusement of the commonplace, average boy. It is the result of idle hands

and idle brains rather than the enlightened investigation of science.

It is the ruthless, selfish, unnecessary taking of life for personal gratification of the feeling that the primary teacher seeks to curb. To do this the sentimentalist works on the feelings of her children and bids them love the whole animal kingdom. She makes the animal, the insect, self-conscious entities, endowed with feelings in the human sense, and then correlates her literature, conscientiously making search for the selections of impersonations of animals to strengthen her position before the child.

Imagine, then, the nervous qualms of the sensitive child who has been told by her teacher that her every step in the beautiful woods on a summer day, destroys countless numbers of insect life; and the hardened attitude of the boy who thinks if that is so, a few more or less will make no great difference, anyhow, and proceeds on his course of cruel destruction of larger prey. The child should certainly be led to see that the animal feels pleasure and pain, but also that it was largely put here for man's needs, and that we have a right to make intelligent use of it, so long as we do not make that life uncomfortable. It is through his reason and not his affection that he should comprehend. The animal has not a life of continuous self-consciousness, and has no fear and no knowledge of death; it is the physical pain that it feels, and the child should make distinctions between the taking of the life of an animal and that of a human being. He should know that it is even kind under certain conditions to give to a suffering animal a painless death. The steady, compassionate hand of a boy who thus relieves suffering, goes much farther in the making of a

man than the tender solicitude of a sentimentalist.

Recently a human skull was held up for observation before a fourth grade class in nature study. One little girl shuddered "ugh" in a most approved manner; but after the teacher, without reference to her, explained how wisely the delicate organs are protected and kept free from impurities, how the inside of our bodies is in reality more beautiful and clean than the outside which comes in contact with grime and dirt and grease, it was noticed that in the personal observation that came later, she was one of the most eager in her questions and in rubbing her fingers over the sutures and the bony ridges of the palate, etc., anxious to get the tactual as well as visual image. It is the encouragement of silly squeamishment in the children by teachers and parents that cripples the work in the high school, and not the fact that the child has been taught to not kill cruelly and heedlessly for fun. It is this squeamishness, this absorption in the feelings of the self, that later makes the man or woman turn sick or stand helplessly by at the sight of sickness and suffering, when a common-sense course in the schoolroom would have made them strong in the time of danger when capable hands and clear brains were needed.

Those who advocate creating a feeling of affection for all animal life claim that the child will have a greater love and sympathy for human beings. There is scarcely an oriental nation but will furnish established and well-known proof of the falsity of this claim. It is the inscrutable Turk, the Mohammedan fanatic, who cares little for human life, even his own, who goes out of his way rather than disturb the sleeping dog, which the Christian or the Jew kicks out of his way with no compunction. And the sleek, well-fed

horse in European or Asiatic Turkey is in great contrast to its ill-conditioned driver. The care of the Hindoo for animal life exists side by side with the rigid caste system, so cruelly imposed on all human relations.

The sentimentalist does not stop with fostering love of animals, which really has some excuse for its folly, but she gives lavishly of her affection to the plant kingdom as well, and tells how wicked it is to pull the flowers just because they give us pleasure for a few minutes. She gives the plant all the feelings of joy at tender care and sorrow for neglect, and pictures the pangs of a violet whose life is prematurely cut short. She goes into ecstasies over a flower, all the time conscious of herself as a lover of Nature. Admiration for the beautiful in Nature is not love, as such. One may be filled with the beauty of a magnificent tree, but love is not the medium through which our admiration finds expression.

Nearly every child has a natural interest in a bright flower and knows that it is to give him pleasure, and to help him give happiness to others. He does not need the artificial stimulation of affection to make him desire to know all about it, to learn too, its whole cycle of life.

But it is in history, in the stories of other people, that the child will find his greatest and most natural interest. Goethe says, "Man alone is interesting to man;" and it is only through relations with other conscious beings that the self is truly realized. Admiration for one higher than ourselves is one of the greatest factors in our own uplifting.

The history taught in the primary grades is mainly biographical stories of great heroes and chiefs and leaders, thereby, as Professor Clark would say, only again showing that we must all climb

our ancestral tree. For what is the early history extant of our race but the story of its strong, brave men, for many generations handed down from mouth to mouth, until all the ideals of a people crystallize about its type, the hero.

So we use the narrative and discreetly select the material that will interest, and we show the ideal value of the character, the deeds and the motives of the first Brutus and Horatius, our Washington and Lincoln.

But do we not fail of our purpose when we say, "Now Thomas, do you think George Washington acted like that when he was a boy?" And again, "Do you think Abraham Lincoln ever played when told to get his lessons?" "I don't believe you love George Washington, or you would try to be like him." What normal boy, or abnormal boy for that matter, with any spirit whatsoever, would not grow to hate the very name of the hero whose unimpeachable virtues are eternally held up before him, turned and twisted and distorted to fit every case of discipline? What, love a boy who never snapped a rubber, never made pin music behind teacher's back, or played tick-tack; never did anything except what was just exactly in order! Even in your own room is this the kind of boy who is admired and looked up to by the other boys? In our zeal to instill into the thoughts and the lives of our pupils the nobleness and the strength of the characters we would have them follow, our mistakened sentimentality often defeats the end sought. In insisting that the children love a man whose boyhood you hold up as so colorlessly unlike his own you lose him altogether. It is the character that he must comprehend and love, and to do this, he must feel the bond of sympathy that makes them kin.

Then, again, however strong and

beautiful the character of the man you portray, however perfect he may be as a man, you do not wish that he be made an exact model for the children to follow. A child can only grow through his own activities; and imitation, as such, even of another's virtues, can only be a retarding factor. You do wish him to comprehend these virtues because they harmonize with his inmost nature, and the man comes to symbolize our ideal of strength and truth and true manhood, the ideal that would otherwise be abstract and vague.

Is it best to always make a careful analysis and application of the moral of your story? Is it not sometimes better to suggest, to lead by a word here and there, and then let the child find the underlying value to himself? Otherwise, the moral may become a sugar-coated abomination which he will in time refuse to swallow at any device you may so carefully plan. Give him something fine and truly worthy of his admiration and respect, and then leave him to reflect and digest, and never fear but that he will find the moral and the application for himself.

The new methods brought about by a better understanding of child mind have not smoothed away all the difficulties from the road to knowledge. They have done much, however, and one of the greatest and first principles of the new school is interest. It is this law of interest, misunderstood by some and carried to extreme by others, that has earned for the new school methods the name of "soft pedagogics." And the sentimentalist has, indeed, lost no opportunity for sticking in her thumb and gently extracting the plums of knowledge (for her pupils) and saying, "What a good, kind, tender, loving teacher I am." She makes everything so easy; everything, everything is put in story form; the children are made to feel that

unless the lesson is interesting, they need have none of it; there are no hardships, no difficulties.

But the teacher loses one of her greatest opportunities for usefulness if she leaves with the child the impression that things are easy, and the habit of waiting passively to be interested. And the child who has never felt the flush of triumph over the mastery of a hard point, who has not by earnest endeavor surmounted a difficulty, has not been given an impetus to a self-reliant, spirited life of activity. The teacher who can thus healthily enthuse her pupils with the feeling of combativeness and determination to overcome, will find a greater satisfaction in thus helping them "find themselves," than any mere personal affection from them could bring her.

Perhaps the greatest opportunities for the teacher for character making comes in her management, or discipline. It is here that all her ideals, taught in reading, literature, history, et cetera, are put into practice. The schoolroom is the arena where the little boy and girl have their first struggles for independent existence as units in a social community; the spoiled child, the sullen, the stubborn, the sweet-natured, the impertinent and the good are all placed on the same footing, and it lies with the teacher whether they will be better, or only confirmed in their habits (and these first years of school life are the habit-forming years) when the school year closes. If she seeks to win their love and confidence, as she certainly should, and then makes their obedience only a thing of pleasing or displeasing her, simply working on their feelings, instead of the rightness or wrongness of the action, her calling is not the sacred one it should be to her. The teacher who says, "Oh, you don't love me, or you wouldn't

act so," is only betraying the confidence of her children. She gives them nothing with which to meet their little temptations outside her room.

The emotional side of a child's life is not permanent; his ideals, his idols change; the new is always the best; the perfectly lovely teacher of yesterday is often the just horrid of to-day. He is not even born polite; if you are not interesting, however much he may be inclined to like you, he yawns in your face. The teacher only lays up pain for herself if she bases her management on pure love for herself. Many a teacher who thinks her order nearly perfect, that she has won their affection, and through that, their obedience, receives a shock to her feelings when after a few days' absence she returns and sees the disappointed look on the faces of her pupils; they long for a few more days of license and ungoverned fun under the unaccustomed eye of the substitute. She has not given them the "something within" that recognizes that the ideal condition of being sincere and honest and true is best for the self. There must be the determining choice of his reason, the active use of his will; only these will bring self-government, which is the only true government.

Through the influence of sentimentality the child is thrown back on himself; he becomes absorbed in his own feelings, and leads a life of emotion that becomes almost irrational in its conceptions of worth. It gives him false ideas of relative worth and deters him from making ever finer discriminations and generalizations.

Sentimentality, then, in the schoolroom, in nature study, in history, in school method and management does not further the higher development of the child. It does not bring him to live every day to the very highest and best that is

within him; and without this everyday life of growth, without the daily exercise of principles that enable him to decide between right and wrong, how can he ap-

proach the ideal of good character. Sentiment unless balanced by principle has no place in the education of the highest type of womanhood and manhood.

SCHOOL MANAGEMENT.

SUPT. J. H. TOMLIN, SEELYVILLE.

GOVERNMENT.

Good government is one of the primary requisites of a good school. Perhaps two-thirds of the failures among teachers may be traced to weakness in discipline.

Government is the fear and dread of almost every young teacher, and indeed of many older ones. It is a problem that every one must in a manner solve for himself. The inexperienced teacher usually begins to look around for a specific or rule for each breach of decorum. He is likely to ask his superior teachers or superintendent such questions as these: How would you break up whispering? How do you keep pupils still? How would you break up laughing? These and many similar questions arise in the minds of young teachers. The experienced teacher can not answer these questions directly; but if he has tact, he can secure the desired results. No one can tell another how to govern. The best he can do is to suggest. There is no rule that will break up whispering and the like. The general antidote for bad order is to make the conditions of the school so good that government takes care of itself. As a rule, he who governs most, governs least, and he who governs least, governs most. The talking, scolding, fault-finding teacher can never become a good disciplinarian. If the conditions of good school work, such as proper ventilation, the right classification of pupils, proper kinds of exercise and play, and especially well-planned and good instruction, are right, govern-

ment becomes comparatively easy. In other words, if the details of the work are looked after closely, the problem of government largely disappears. If the teacher prefers to teach rather than to perform police duties, let him be thoroughly conversant with the various phases of his work, and in no case neglect the little things. Good conditions mean easy government. This implies on the part of the teacher the ability to create a living school interest; to put life and spirit into the work; to make such formal subjects as spelling interesting; to put flesh onto the dry bones of history; to sympathize with childhood and its difficulties. Thus the question of government is solved, not in any one way, but in a multitude of ways. Fortunate is the teacher who can devote his energies to the real work of the school—that of instruction—rather than waste them in maintaining order.

Aside from favorable conditions, the individual qualities of the teacher have an important bearing on discipline. The qualities most valuable here are sympathy, will force and justice. A kind, sympathetic spirit does much to secure co-operation and obedience. The child is a social being, and his natural impulses and nature make him appreciate sympathy and kindness.

The will power of the teacher must always dominate that of his school. Government is nothing more than the exercise of authority. The weaker will must yield to the dominant will, and when that is the

condition, the authority of the teacher is established. This exercise of will is the chief virtue of any executive officer. It beats down opposition and makes obedience necessary.

The child is also a rational being, and therefore loves justice. The emotions of the child are very strong. He is jealous of his rights and privileges. Wrong a child and he never forgives you. Treat him justly and he respects you. The exercise of simple justice commands the cooperation and good-will of children. The teacher ought to be magnanimous at all times in the treatment of children. It is far better to be a little liberal than too exacting. In all matters of uncertainty the child should have the benefit of the doubt. Sympathy, will force and justice are the three great bulwarks of the individual side of government.

The final end of all government is self-government. No matter what means be employed, this purpose should be kept in view. The highest product of government is the self-controlling, self-directing individual. When the government of the school shall be such as to produce this sort of citizen, great advancement will have been made in our civilization and among our free institutions. Only this kind of government is worthy of a republic. Pupil government and all similar devices have in view the idea of self-government. This principle should control all school discipline, whether the means be moral suasion or the rod.

A general visit among teachers will disclose two kinds of government. One is quiet and dignified, is brought about by moral forces, and is in the main self-directive; the other is iron-clad and rigid, and is brought about through force and fear. This latter kind may be successful for the time, but its lasting influences are

wanting. The meanest pupils that infest the streets are those subjected to such government. They are anything else but self-directive when freedom is given them. The former is the true government, and it invariably leads into that self-control so necessary to good citizenship. The latter, no matter how perfect it may appear in the schoolroom, is false government, and can not result in any real or permanent good.

It may not be possible in all cases to secure orderly conduct by gentle means. The exceptions, however, are rare, but government must be broad enough to reach all cases. Quiet and gentle means are always to be employed when they will do; but let it not be forgotten that the school must be governed at whatever the cost. Good government is just as necessary as good instruction. It requires both to make a good school. No school can be considered good without sound, healthful discipline. He who can govern by moral influences alone shows high ability and attainment as a teacher. The fitness of a teacher may be largely judged by his power to secure order by mild means. But the best of purposes sometimes fail, and the teacher ought to be equal to the emergency. This brings us to the questionable use of the rod as a means of discipline. The late fad of giving extended liberties to children deserves but little sympathy. Adults can not always be trusted to do as they please, much less children. All civilized people are subject to law. Why should children not be? There is no government without law. There can be no law without possible punishment. Every kind of punishment implies pain. Pain is either physical or mental. An objection to corporal punishment is legitimately an objection to any kind of punishment. Is the body more sacred than

the mind? To do away with punishment would be to do away with law. It would mean anarchy. And yet we are confronted by a set of good people who cry out against corporal punishment either of criminals or of school children. A few years ago when the Indians were terrorizing the great West and indulging in the pastime of taking scalps, a band of Eastern philanthropists were pleading gentle treatment of them. How long must the innocent be compelled to suffer on account of sentimental moralism? We insist that the medicine must always be strong enough to overcome the disease. When "Poor Lo" gets on his war paint, it is useless to use moral suasion on him. It takes a stronger argument to convince him of his errors. So it is in the school-room. There are certain dispositions that nothing but force reaches. Argument and persuasion have no effect. Many schools have the bully who defies authority and gloats over his obstinacy and courage. A good, wholesome application of the rod, according to scripture, has been the means of saving many such pupils. Certainly the highest punishment that can befall a pupil is expulsion. The only salvation for the pupil is to keep him in school. It is the duty of the school to retain the pupil, and that often implies corporal punishment. Shall the teacher shrink from his moral and legal duty because of unfavorable criticism? Many parents shrink from it. City school boards have abolished the use of the rod. Are these sensitive people willing that their children should defy law and order merely that their whims may be carried out? The biting sarcasm and severe rebuke practiced by many teachers and parents are more severe to delicate, sensitive children than corporal punishment. Government is for the good of the gov-

erned, and punishments of all kinds should be administered kindly and judiciously. Whenever the individual puts himself out of harmony with his fellows or his surrounding, he must be reformed, if not by reason, by severer means.

The teacher acts in the capacity of parent. He is parent for the time being. Under the law, he has the same rights as the parent in so far as government of the child is concerned. He can punish with the common rod or switch within reason. He dare not do more. Whatever course seems necessary to secure good order, let the welfare of the pupil be the guiding principle. This is reasonable and just.

The government of the school is an absolute monarchy, but not a despotism. The teacher's will is law. He must be obeyed. No one can question his authority. To arm the teacher with such responsibility and divest him of the means of carrying it out, would be to cripple his work and make discipline a farce. Let the teacher have full power, and let him be held strictly responsible for his deeds. When reason, justice, sympathy and good sense guide him, he will seldom fall into error.

As states grow older and civilization advances and methods of school work become better, government will be correspondingly easier. The following principles may be of some help in grasping the problem of discipline:

1. Be honest, just, firm.
2. Example weighs more than precept.
3. The child that is kept busy about right things, has no time for mischief.
4. Be sure you are right before offering a reproof, granting or refusing a request, or making a law.
5. It is more practical to prevent wrong-doing than to punish it.

6. Always seek the good of your pupils, not your own.

7. The law of right covers all rules.

8. A rule often suggests an evil that would not otherwise have been thought of.

9. Good conditions and good work

save the teacher the trouble of governing.

10. Keep good order by gentle means if possible; but keep good order.

11. Never punish in anger.

12. Self-control is the highest ideal of government.

.... THE SCHOOL ROOM ...

SCHOOLROOM DECORATION.

ALFRED MANSFELD BROOKS, PROFESSOR OF FINE ART,
STATE UNIVERSITY, BLOOMINGTON, IND.

It will be denied by none that the beauty of our surroundings, whether natural or artificial, has a marked influence upon our characters. The widespread movement for the decoration of schoolrooms testifies, that the importance of this influence is being more and more appreciated as time goes on. It is a work with which all well-wishers of mankind must sympathize.

The choice of pictures or statuary for a schoolroom should involve the exercise of great tact and discretion, for children and young persons can not be expected to take any real interest in what they can not readily understand, whether a work of literature or of art. Let them begin by looking at first-rate, but simple works of art, for in becoming used to these they will gain the power of understanding and appreciating the more complex. Therefore those pictures are good which tell a straightforward story; and before all, those which deal with animal and landscape subjects.

Drawings of landscapes and animals were but the accessories of art in the elder days, but for the past two centuries they have taken precedence of religious motives. Men have developed a love for na-

ture, and come to feel, that love of this world's beauty is good. They have turned from the contemplative life of the cloister to the active life of the world. In place of the pictures of saints and martyrs and heavenly visions, they paint forests, and the animals that dwell in them, and the sea, and the clouds of heaven. "The perfect beauty of all natural things is summed up in the angel's promise, 'Good-will towards men,'" said Mr. Ruskin. Our faith in spiritual things is not less than that of the contemporaries of Fra Angelico. No! but we have developed our own peculiar manner of expressing it. The very fact proves the everlasting nature of the quality of faith. While the works of the masters of Italian painting (presently to be spoken of) should by no means be neglected, those branches of art which are essentially modern should receive the greater share of representation, because they have a direct bearing upon modern life which will be at once comprehended by the pupils. Animal and landscape art have received the impress of some of the noblest spirits of modern times.

Landscapes, which are full of human as well as divine interest; those which express the subordination of natural and brute forces to man's legitimate uses—the "water-mill" of Hobbema, or the yoked oxen before the plough, of Jules

Breton—as well as those which tend to impress the mind with the manifold goodness and grandeur of God's work—Turner's scenes in the high Alps, or his fertile fields yielding an abundant harvest for man's support—such pictures as these will compel the attention of children and youths. These are subjects easily understood. They are part of the daily life of man. They come home to all with useful lessons and ennobling inspirations. They help those who dwell in natural places to appreciate their loveliness and benefits. They lead those who live in cities, and who are deprived of such blessings, to wish to know the health-giving country.

Landscapes there are, too, which show man's most splendid works of architectural and engineering skill: Claude's pictures of the ruins of Rome; Turner's pictures of the glories of mediaeval Venice; Cuypp's massive tower of Dordrecht, seen rising in the distance, high above the roofs of the town, an emblem of faith in God and the brotherhood of man, in an age now long gone.

Photographs, and solar enlargements of photographs, of important historical places, and the great works of architecture in all ages, should be given a place in schoolroom decoration: The Colosseum and the Arch of Titus; St. Marks and the Ducal Palace; Giotto's Tower; the Cathedrals of Paris and Reims; Westminster Abbey (any view but that of the West Front); the field of Waterloo; the Simplon Pass, or Mount Vernon.

Pictures of animal life should receive very generous representation, and none better are to be had than good photographs taken directly from the works of Edwin Landseer. His picture known as "Peace and War," in which sheep tended by children are quietly grazing about some disused canon on a grass-grown

earthwork, overlooking the sea, is one for the special delight of children.

Rosa Bonheur's animals deserve mention, though they are not so well calculated to teach lessons of endurance and fidelity as Landseer's; the virtues which animals possess in so high a degree and which make them our rightful companions and helpers. Kindness and gratitude to them can not be too early instilled into the child's mind. The pictures of Edwin Landseer will do more in this way by example, than many hours of precept from the best of teachers, or the agents of the Prevention of Cruelty to Animals Societies.

Subjects of a theological character, even though painted by the greatest masters, should be excluded. The "Miracle of Bolsena" and the "Dispute Concerning the Sacrament," though the works of Raphael, are utterly inappropriate for the schoolroom, because they involve questions which are utterly inappropriate for the youthful mind.

The greater number of religious pictures should be excluded, especially those which have anything painful or awful in them. Crucifixions, Entombments and Last Judgments, though they be those by Tintoret, Titian and Michaelangelo should find no place in any schoolroom.

Some religious pictures, however, are peculiarly appropriate for children. They are those which have little or no connection with dogmas and doctrines. First among these are the Madonnas, and especially those which include no other persons than Christ, the Virgin, and St. John. Of such are Raphael's "Madonna of the Grand Duke," John Bellini's "Mother and Child," and Botticelli's lovely "Mary with Christ and St. John" in a rose garden. Second in this class of pictures are those, which illustrate the

more easily comprehended events of Christ's life: Corregio's "Holy Night," Gozzoli's "Adoration of the Magi," Angelico's "Flight into Egypt," and Raphael's "Miraculous Draught of Fishes." Many others of a similar character might be mentioned. Fra Angelico's angels can never fail to give pleasure to old and young alike.

For more advanced pupils, those in the High School who have begun to study Greek and Roman history, some mythological subjects may be well had. The "Mount Parnassus," by Raphael, for example, or Guido's "Aurora," or Sir Frederick Leighton's "Garden of the Hesperides." A few good plaster casts taken from the best works of Greek sculpture will be found desirable. Such casts should as a rule be of the full size of the originals. Reductions are never wholly good. Individual slabs from the Parthenon frieze, or the bas-reliefs from the Temple of Wingless Victory are as fine as anything that can be obtained. Good reductions of the Venus of Melos are likewise obtainable.

Works of modern sculpture, and especially modern religious painting, were best omitted entirely. The eighteenth and nineteenth centuries have not had the sort of faith which finds its highest expression in religious painting, and such pictures in our day are for the most part mockish or weakly sentimental. At best they are but imitations of the work of a bygone age. If a man be an artist, he will have a special message to deliver which can not be expressed in the manner of his predecessors. Canova and Cornelius failed. They could not, nor can anyone successfully put new wine into old bottles.

Portraits, whether sculptured or painted, are of two classes, those taken directly from life, and those drawn from the im-

agination of the artist. To the question of the desirability of placing such in schoolhouses, there are two answers.

First, if the intention is to create an appreciation of good art, the portrait, whether bust or photograph, must be chosen for its artistic merit, and not merely because the subject is a famous man. A fairly good likeness is frequently a very poor work of art. For example, it may be deemed wise to have a portrait of Shakespeare in the schoolhouse. Now of the many different so-called Shakespeares, there is but one which has any particular claim to having been drawn from the great poet during his life. This is the "Droeshout" portrait, of which Mr. Sidney Lee, in his "Life of Shakespeare," says: "Although the history of this portrait rests on critical conjecture and on no external contemporary evidence, there seems good ground for regarding it as a portrait of Shakespeare painted in his lifetime—in the forty-fifth year of his age. No other pictorial representation of the poet has equally serious claims to be treated as contemporary with himself, and it therefore presents features of unique interest."

This is one of those portraits of the former class wherein the interest depends upon the probability of actual concrete likeness, and not on any abstract merit as a work of art. For this reason the "Droeshout portrait" has strong claim to being hung in schoolrooms, while the many paintings and busts since made of Shakespeare have but slender claim, they not having the "features of unique interest," or the abstract qualities of high art. It is works of this latter sort which form the second class, and representative of those who have produced such works, is the great artist Hans Holbein, who died ten years before Shakespeare was born.

His canvases show us the famous scholars and statesmen of the first half of the sixteenth century, painted from life with the utmost artistic power and skill; Erasmus for example, and Melancthon, Sir Thomas More and Francis I. and Henry VIII.

As a rule, however, portraits are less desirable for the present purpose than any other forms of art. They are the highest form of art, yet the form hardest to understand and appreciate, and hence least suited to the minds of children. If portraits are to be chosen, let them be such as display dignity and nobility of feature combined with beauty of form and dress, as well as historical or literary interest. Ruben's picture of his wife and two children in the Louvre, Van Dyck's Children of Charles I. with their dog, Sir Joshua Reynolds's Mrs. Siddons, or Stewart's George and Martha Washington. Of poets or statesmen recently dead, or still living, photographs from life are as a rule best. If Lincoln is to be represented let it be by what is the most correct likeness of him, a photograph. Let the pupils learn to reverence the picture, as the semblance of a noble and mighty statesman, but not as a work of great art.

Finally, it is good indeed, that Art, which in ages past taught children, as well as their unlettered elders, to love truth and pursue it; that Art, which really made the "*picturae ecclesiarum*" the "*libri laicorum*," should once again take her place as a recognized teacher of youth and a promoter of education.

THE OLD ROMANS: THEIR EVERYDAY LIFE.

LYDIA B. BLAICH, SUPERVISOR IN THE INDIANAPOLIS SCHOOLS.

In the history of the "Ten Boys" would you use supplementary work? If so, to

what extent? This is a question which the best equipped teacher in the Hoosier capital and the master of the most distant rural schoolhouse are alike called upon to solve. The answers will not be the same in the two cases, because the Indianapolis course of study is endeavoring to deal with the first seven boys in five months' time—in the 5B grade; while the State course allows itself five years for six boys, giving to each of the first four an entire year. Again, Indianapolis devotes its sixth and seventh school years to quite a detailed study of the ancient civilized peoples—Southwestern Asia, Egypt, Greece, Rome, the Middle Ages; while the State course does not give such a second, enlarged view.

With these facts in mind, we can answer the opening question. A teacher attempting to give a panorama of the civilization of seven nations in five months, will do well to confine herself to Jane Andrew's book, supplementing it only with such information as is necessary to make clear and vivid that material. She should not attempt to give outside work on battles, law-givers and statesmen. But when an entire year is to be spent on one boy surely there is opportunity to do much supplementary work; just such, for the most part, as the State course suggests. Here again we would warn against detailed accounts of bloody battles and savage customs. One, teaching under the State course, can not go far astray, if he follows quite closely Caroline and Samuel Harding's "*The City of the Seven Hills*," now in the children's reading circle list.

We here present one kind of supplementary work which may be given any school studying Horatius, who, by the way, was not a flesh and blood individual, as Darius was, but simply a Roman type. In a way, then, he is a myth; but by

reason of being typical, he becomes the most real and honest kind of a true character.

The Horatius chapter mentions the following: "In Rome you know a man's rank by his dress" (83); "Wait until you reach the atrium" (85); "books and writing-tablet" (102); "funeral celebrations" (107); "the freeing of a slave" (110); "the golden bulla" (90). Do the children have a clear picture of all of these? In Ancient Rome there were two kinds of houses. The ones for the common people, merchants and mechanics were plain, one story high, with three or four rooms. Those inhabited by people of quality were magnificent, sometimes four stories high. The first floor was used by servants and for the baths; and the second contained fine rooms for the family and guests. The better houses inclosed a front vestibule on three sides. In the middle of the front wall of the vestibule was a double door furnished with locks and bolts. The finest doors were made of polished marble or bronze, richly ornamented. These doors were supplied with knockers or bells, which summoned a porter who was chained in a small room near the door. These bells were also used to waken the family and to call them to their meals.

Every good Roman house had a bath; for cleanliness was a virtue with these people. They always bathed just before the evening meal, which was their chief repast. Fine public baths were open to all people from sunrise to sunset. The smallest Roman coin was charged for a bath. Children were admitted free. Under the same roof were other rooms for exercise, amusement, schools, and restaurants. The baths generally consisted of four compartments, viz., a cold room for disrobing, a warm room, a sweating-room filled with

warm vapor, and the bathroom with its marble basin.

The atrium, most important of all rooms, was fitted up in great splendor by the rich, for guests were received there. The ceiling was painted in gay colors or covered with gold; on the walls were painted pictures of the gods of war and the chase, or they were hung with rich Persian tapestries; the floors were made of many colored stones in beautiful designs. Marble statues and busts of heroes, as well as wax figures of the family ancestors, were kept here. Every day the family met in this room at the altar for the morning sacrifice; and here, too, the pedagogue taught the children grammar. In the atrium were many chairs; some, plain; others, very magnificent, with cushioned backs and seats, covered with Tyrian purple. Little sewing tables, chests with drawers, jewel caskets and clothing presses were also to be found in this important room.

The kitchen was near the dining hall. In it one could find all kinds of utensils very much like ours, and yet different. It would be difficult indeed to mention a meat or a vegetable not cooked in the Roman kitchen. The expert cooks were Greeks or Sicilians.

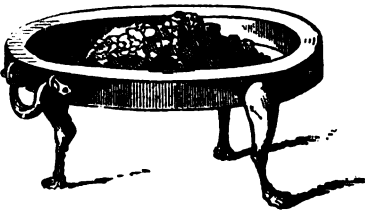
In very early times, the sturdy Romans sat upright at the dining table, just as well-bred Americans do; but by and by, their many conquests, which poured great wealth and luxury into the city, brought with them the indolent habit of lying at meat. Even common people ate their brown bread, acorns and fish in a reclining attitude. This habit grew out of the daily use of the bath, after one of which the bathers, somewhat tired, would lie on a couch or bench, while servants brought them their food. The eating-couch ac-

commodated two or three persons. Before them was placed a table, with perhaps a loaf of bread, a goblet of wine and a lamprey.



LIVING AT TABLE

The bed-chambers were placed in the eastern part of the house for the sake of the light and the warmth of the morning sun, which called forth the adoration of the sleeper as soon as he wakened. Winter sleeping rooms were on the south side of the house. Usually the weather was sufficiently warm, but, occasionally, on the coldest days a movable fireplace with burning charcoal whose fumes escaped through windows and roof openings, had to be used.



PORTABLE FIRE-PLACE

One of the pleasantest parts of the house was the inner court, surrounded by columns and a gallery, and open to the sky. Flowers and shrubbery grew in the middle. On the tops of the houses were charming roof-gardens. In these two places many delightful hours were spent by the family.

The richest country houses had towers from which to view great stretches of land

and sea. About the houses were fountains, cascades, silver brooks and gardens filled with fruits and vegetables.

How did the Romans dress? Each class had its peculiar fashions. The slaves, common people and children wore woolen shirts that fell to the knees and were girded about the waists with a cord. Rich people used gay-colored silk sashes instead. In winter the common people wore a short woolen tunic next to the skin; and long, woolen hose for their legs, and heavy shoes. The patrician had a long outer tunic of fine white linen with a purple stripe extending from the throat to the lower hem of the garment. Rich people generally went about bareheaded, or they covered their heads with a fold of the ample toga, which was a large woolen, linen or silk gown—a robe of honor, worn only by patricians. It was amply fastened



PENULA, OR SHORT TOGA

about the body so as to allow full freedom of the limbs. At feasts and funerals, a

short toga fastened by a buckle over the right shoulder was worn. The sons of patricians wore togas, very similar to the fathers', but there was no purple border. Day laborers and mariners wore felt hats



TOGA PRAETEXTA.

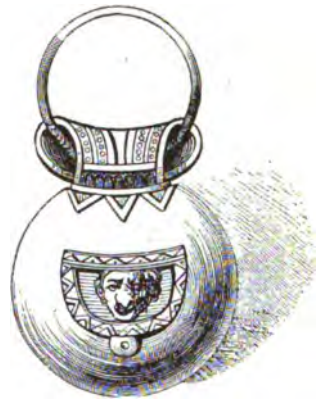
as a protection against extremes of heat, cold and storms. When a slave was freed,



PHYRGIAN CAP.

the Phrygian cap of liberty was placed on his head. It was made of undyed wool.

The poor baby had the hardest time of all; for it was wrapped—arms, body and legs—in costly stuffs, purple scarfs, and fine white shawls; so it enjoyed very little free use of the limbs. As soon as it began to walk, a bulla was hung about its neck, which was often a metal disk, engraved with the child's family name, that it might be identified if lost; but generally the bulla was a hollow metal case containing charms against evil spirits. Gold bullae were given to boys who had distinguished themselves by some great deed.



A BULLA.

Roman funerals are very interesting to us. When a man of distinction died, there were music, a long line of hired mourners, sacrifices, and mountebanks who by their funny weeping and wailing relieved the solemnity of the occasion. The body was saturated with perfumed oils and burned, and the ashes were placed in an urn, which was very highly regarded by the family. Often games and banquets were given after the public funeral, which only the rich could afford. Sometimes all Rome was invited to the feast. Twenty thousand tables were required at the public banquet Julius Caesar gave in honor of his deceased father.

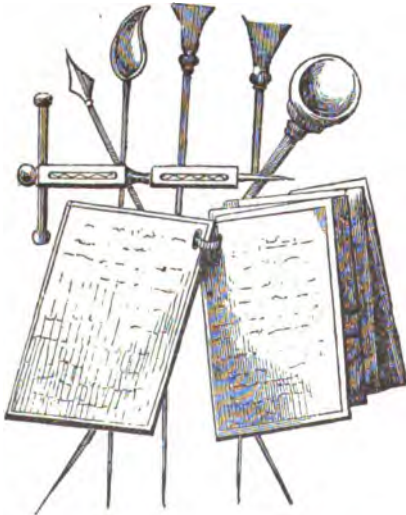
Education was compulsory, and in every house could be seen paper, made from the

papyrus plant; ink, composed of soot of various burned substances mixed with



MONUMENTAL URN.

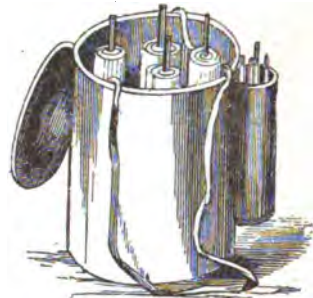
gum and vinegar to make the color permanent; pens and styli. The latter were



TABLETS AND STYLI

made of bone, ivory or hard wood with a

sharp point. The tablets with which they were used were made of wood, ivory or lead covered with wax. The blunt end of the stylus was used for erasing. The styli in very ancient times were made of metal, but owing to serious accidents they gave way to bone. They with rolls of paper were carried to school in a cylindrical box, called a scrinium.



A SCRINIUM.

Roman books were written in columns, with a small space between, on prepared sheep and calf skins. Pieces were fastened together so as to make a long strip which was rolled on a staff; this was called a volume, and sometimes several volumes were required for one work. These were preserved in a scrinium, and appeared thus on library shelves and in book stores.

Interesting as all these things are, we believe that the common everyday life of the modern American has some great advantages over Roman life.

"WHAT CHANGE, PLEASE?"

Let the teacher who is looking for something practical in the way of a number drill try having pupils change money.

By all means have the toy money. It can be bought of school supply houses, or the pupils can make it; or the every ready hectograph will enable the teacher to prepare it for the class.

The penny, nickel, dime, quarter and half dollar will be the only denominations

needed in making change for a dollar. Each pupil may be given as capital ten pennies, ten nickels, ten dimes, four quarters and two half dollars, thirty-six pieces in all.

Explain that pennies are undesirable "change" and are never to be given when a single coin may be substituted for them.

Oral work:

Teacher—"Who will give me change for a quarter?"

Albert—"I'll give two dimes and a nickel."

Bessie—"I'll give one dime and three nickels."

Charles—"I'll give five nickels."

Teacher—"I have thirty-three pennies. Who will kindly give me larger change?"

Doris—"I'll give a quarter, a nickel and three cents."

Ellis—"I'll give three dimes and three cents."

Frank—"I'll give two dimes, two nickels and three cents."

At first, the pupils should always select the paper "coins" and lay them aside as if to give to the teacher.

Desk work:

What coins are equal in value to the following numbers of pennies: 21, 18, 39? (Give two answers to each.)

COMPLETED WORK.

Pennies.	Are equal to—
21	2 dimes, 1 cent 1 dime, 2 nickels, 1 cent.
18	1 dime, 1 nickel, 3 cents. 3 nickels, 3 cents.
39	1 quarter, 1 dime, 4 pennies. 3 dimes, 1 nickel, 4 pennies.

When the pupils are sufficiently expert in the foregoing, something more difficult may be given.

Oral work:

Teacher—"I spent 11 cents at your store and handed you a quarter. What change, please?"

Albert—"I should give you a dime and four pennies."

Bessie—"I should give you two nickels and four pennies."

Teacher—"I spent 23 cents at your store, and gave you half a dollar; what change, please?"

Charles—"I'd give a quarter and two cents."

Doris—"I'd give two dimes, nickel, and two cents."

When the process is thoroughly understood, the pupils will enjoy playing a game called "What Change, Please?"

The teacher names the coin to be changed, for instance, one dollar, and names a pupil as buyer; he tells the sum he has spent and asks a classmate what change is due.

Teacher—"We will find change for a dollar to-day. Albert, you may buy."

Albert—"Bessie, I spent 45 cents at your store; what change, please?"

Bessie—"I'd give you two quarters and two dimes."

Albert—"You would cheat yourself if you did; you owe me two quarters and a nickel."

Because Bessie made a mistake and Albert corrected it, he remains buyer until some one gives him the right change. Then that pupil becomes buyer, and Albert takes his seat. If both buyer and storekeeper make a mistake, then both sit down, and the teacher names a new buyer. The tendency is for the buyers to ask "slow" pupils for "change," so as to remain buyer as long as possible.

Desk work:

What change is due from a dollar for

25 cents? 52 cents? 90 cents? (Two answers to each.)

COMPLETED WORK.

Moneyspent.	Change from \$1.00—
25 cts.	3 quarters. 2 quarters, 2 dimes, 1 nickel.
52 cts.	3 pennies, 1 nickel, 4 dimes. 3 pennies, 2 dimes, 1 quarter.
90 cts.	1 dime. 2 nickels.

THE SUGAR-PLUM TREE IN PL.

1. Have you ever heard of the Sugar-Plum Tree?
2. When you've got to the tree, you would have a hard time
2. The tree is so tall that no person could climb
1. 'Tis a marvel of great renown!
1. It blooms on the shore of the Lollipop Sea
4. There are marshmallows, gum-drops, and peppermint canes,
3. And the sugar-plums tumble, of course, to the ground—
3. From this leafy bough unto that,
4. And I'll rock you away to that Sugar-Plum Tree
2. To the boughs where the sugar-plums swing!
2. To capture the fruit which I sing;
4. With stripings of scarlet or gold,
2. But up in that tree sits a chocolate cat,
3. Hurrah for that chocolate cat!
2. And a gingerbread dog prowls below—
3. And he barks with such terrible zest
1. That good little children have only to eat
3. And the chocolate cat goes cavorting around
4. And you carry away of the treasure that rains
4. In your dainty white night-cap and gown,
2. Those sugar-plums tempting you so:
2. And this is the way you contrive to get at
4. As much as your apron can hold!

3. You say but the word to that gingerbread dog

1. Of that fruit to be happy next day.
1. (As those who have tasted it say)
1. The fruit that it bears is so wondrously sweet
3. That the chocolate cat is at once all agog,
1. In the garden of Shut-Eye Town;
3. As her swelling proportions attest.
4. So come, little child, cuddle closer to me
4. In the garden of Shut-Eye Town.

The punctuation is the same as in the original:

THE SUGAR-PLUM TREE.

Have you ever heard of the Sugar-Plum Tree?

'Tis a marvel of great renown!
It blooms on the shore of the Lollipop Sea
In the garden of Shut-Eye Town;
The fruit that it bears is so wondrously sweet
(As those who have tasted it say)
That good little children have only to eat
Of that fruit to be happy next day.

When you've got to the tree you would have a hard time

To capture the fruit which I sing;
The tree is so tall that no person could climb

To the boughs where the sugar-plums swing!

But up in that tree sits a chocolate cat,
And a gingerbread dog prowls below—
And this is the way to contrive to get at
Those sugar-plums tempting you so:

You say but the word to that gingerbread dog

And he barks with such terrible zest
That the chocolate cat is at once all agog,
As her swelling proportions attest.
And the chocolate cat goes cavorting around
From this leafy limb unto that,
And the sugar-plums tumble, of course, to the ground—

Hurrah for that chocolate cat!

There are marshmallows, gum-drops, and peppermint canes,

With stripings of scarlet or gold,
And you carry away of the treasure that
rains

As much as your apron can hold!
So come, little child, cuddle closer to me
In your dainty white night-cap and gown,
And I'll rock you away to that Sugar-Plum
Tree

In the garden of Shut-Eye Town.

COMMON FRACTIONS.

A. JONES, INSTRUCTOR IN ARITHMETIC, MARION
NORMAL COLLEGE.

No subject in arithmetic is more difficult than fractions. The evidence of the truthfulness of this statement is everywhere apparent. The average pupil, when asked to solve a problem involving complex fractional relations, manifests a lack of confidence in his ability to obtain the correct result. There is more or less shadow upon some phases of the subject and the movement of the mind is labored and uncertain.

The causes of the difficulty may readily be seen, and should be carefully noted by the teacher in order that no mistakes may be made in beginning the subject.

Common fractions involve a varying scale. The fractional unit expresses the number of parts into which the whole is divided, and may be any number. In the fractions, $\frac{3}{7}$, $\frac{5}{16}$ and $\frac{4}{11}$, the fractional units are, respectively, $\frac{1}{7}$, $\frac{1}{16}$ and $\frac{1}{11}$, and have no dependence upon each other. In interpreting the fraction $\frac{7}{8}$, the pupil is required to think 7, 8, and the ratio of 7 to 8, which is the value of the fraction. If the fraction should be concrete, as $\frac{7}{8}$ acre, the expression is still more complex. In dealing with integral numbers, since the scale is uniform, the pupil soon learns to think the relation that a unit of one order bears to a unit of another order; but in fractions there is no such uniformity, and with this variable measuring unit the pupil encounters trouble. Because of these complexities, more severe mental effort is required; the pupil must move to a higher plane of thinking. The teacher

will be required to advance cautiously and patiently in helping the pupil to interpret the new in the light of the old. He must show the pupil that in the seeming maze of difficulties there is a rational basis for each expression and process. If the student is permitted to solve the problem mechanically, according to some rule, without understanding the reason for the process, there can be but one result, discouragement and failure; and to fail in fractions is to block further progress in mathematics of any grade.

By reason of the nature of common fractions, very much of the work consists in reductions. In these processes the value of the fraction is not changed, but they are reduced to common measuring units so that the mind can perform the synthetic and analytic processes as in integral numbers. In all solutions, the form of the expression is determined by the nature of the relations involved.

Following are some illustrative problems which are intended to be suggestive only:

Problem: Change $25\frac{3}{4}$ to an improper fraction.

$$\begin{aligned}\text{Solution: } 1 &= \frac{4}{4} \\ 25 &= 25 \text{ times } \frac{4}{4} = \frac{100}{4} \\ \frac{100}{4} + \frac{3}{4} &= \frac{103}{4} \\ \therefore 25\frac{3}{4} &= \frac{103}{4}.\end{aligned}$$

Problem: Change 9 to 15ths.

$$\begin{aligned}\text{Solution: } 1 \text{ unit} &= 15 \text{ fifteenths.} \\ 9 \text{ units} &= 9 \text{ times } 15 \text{ fifteenths} \\ &= 135 \text{ fifteenths.} \\ \therefore 9 \text{ units} &= 135 \text{ fifteenths.}\end{aligned}$$

Problem: Reduce $\frac{78}{91}$ to lowest terms.

Solution: The prime factors of 78 are 2, 3, and 13.

The prime factors of 91 are 7 and 13.

13 is the only factor common to both numbers, and therefore, the greatest common divisor.

$$\begin{aligned}\frac{78}{91} &= \frac{78 \div 13}{91 \div 13} = \frac{6}{7}.\end{aligned}$$

Since the only common factor, 13, has been rejected, the remaining factors are prime to each other, and the resulting fraction, $\frac{6}{7}$, is in its lowest terms.

$\therefore \frac{7}{8}$ reduced to lowest terms = $\frac{7}{8}$.

The principle in the foregoing problem is the same as that involved in cancellation, and should be recalled here.

Often the pupil is permitted to divide first by one factor then another, and so continue until the numerator and denominator are prime to each other. This is a kind of "cut and try" process and does not show the true function of the greatest common divisor.

Problem: Change $\frac{3}{8}$ to 128ths.

Solution: $\frac{3}{8} = 1$. $\frac{1}{8} = 1$.

$\therefore \frac{3}{8} = \frac{1}{8}$.

$\frac{1}{8} = \frac{1}{8}$ of $\frac{1}{8} = \frac{1}{8}$.

$\frac{3}{8} = 21$ times $\frac{1}{8} = \frac{21}{8}$.

$\therefore \frac{3}{8} = \frac{21}{8}$.

Problem: $\frac{7}{8} \div \frac{3}{8} =$ what?

Solution: 1 is contained in $\frac{7}{8}$, $\frac{7}{8}$ of 1 time.

$\frac{1}{8}$ is contained in $\frac{7}{8}$, 5 times $\frac{7}{8}$ = $\frac{35}{8}$ times.

$\frac{3}{8}$ are contained in $\frac{7}{8}$, $\frac{1}{3}$ of $\frac{35}{8}$ times = $\frac{35}{24} = 1\frac{11}{24}$ times.

$\therefore \frac{7}{8} \div \frac{3}{8} = 1\frac{11}{24}$.

The above analysis shows how the expression of the true relations changes the places of the terms of the numerator and denominator in the divisor, $\frac{3}{8}$. If the pupil be permitted to "invert the divisor and proceed as in multiplication," he will succeed in "getting the answer," but will gain no power.

Problem: $\frac{3}{8}$ is what part of $\frac{7}{11}$?

Solution: $\frac{1}{11}$ is $\frac{1}{11}$ of $\frac{7}{11}$.

$\frac{1}{11}$ is 11 times $\frac{1}{11}$ of $\frac{7}{11} = \frac{11}{11}$ of $\frac{7}{11}$.

Since $\frac{3}{8} = \frac{11}{11}$,

$\frac{3}{8} = \frac{11}{11}$ of $\frac{7}{11}$.

$\frac{1}{8} = \frac{1}{8}$ of $\frac{11}{11}$ of $\frac{7}{11} = \frac{11}{88}$ of $\frac{7}{11}$.

$\frac{3}{8} = 2$ times $\frac{11}{88}$ of $\frac{7}{11} = \frac{22}{88}$ of $\frac{7}{11}$.

$\therefore \frac{3}{8}$ is $\frac{22}{88}$ of $\frac{7}{11}$.

The same result may be obtained by reducing the fractions to a common denominator and comparing numerators.

Problem: Find the number of which 36 is $\frac{9}{16}$.

Solution: Let $\frac{16}{16} =$ the required number.

$\frac{9}{16}$ of the required number = 36.

$\frac{1}{16}$ of the required number = $\frac{1}{9}$ of 36 = 4.

$\frac{16}{16}$ of the required number = 16 times 4 = 64.

Hence 36 is $\frac{9}{16}$ of 64.

Problem: What number is that $\frac{3}{8}$ of $\frac{2}{3}$ of which is 291 less than $\frac{2}{3}$ of $\frac{3}{8}$ of it?

Solution:

$\frac{3}{8}$ of $\frac{2}{3}$ of a number = $\frac{1}{4}$ of it.

$\frac{2}{3}$ of $\frac{3}{8}$ of a number = $\frac{1}{4}$ of it.

$\frac{1}{4} - \frac{1}{4} = \frac{27}{48}$, the fractional difference of the parts.

$\frac{27}{48}$ of the required number = 291.

$\frac{1}{48}$ of the required number = $\frac{1}{9}$ of 291 = 3.

$\frac{48}{48}$ of the required number = 480 times 3 = 1440.

Hence the required number is 1440.

Problem: How is the value of a proper fraction affected by adding the same number to both terms? Why?

Answer: The value of a proper fraction is increased by adding the same number to both terms.

Illustration: In a common fraction, the numerator expresses the number of fractional units; the denominator the value of the fractional unit with reference to 1 as the primary unit. Since in a proper fraction the numerator is always less than the denominator, the difference between the numerator and denominator expresses the number of fractional units the fraction lacks of being 1 in value. $\frac{4}{5}$ is a proper fraction; $\frac{1}{5}$ is the fractional unit; $1 = \frac{5}{5}$; $\frac{5}{5} - \frac{4}{5} = \frac{1}{5}$, what the proper fraction, $\frac{4}{5}$, lacks of being equal to 1. Now add 7 to both numerator and denominator of the fraction.

$$\frac{4}{5} + \frac{7}{7} = \frac{11}{12}; \frac{12}{12} - \frac{11}{12} = \frac{1}{12}.$$

The difference between $\frac{11}{12}$ and 1, is still 1 fractional unit; but the fractional unit has been reduced in value from $\frac{1}{5}$ to $\frac{1}{12}$; therefore the difference between $\frac{11}{12}$ and 1 is less than the difference between $\frac{4}{5}$ and 1; therefore $\frac{4}{5}$ has been increased by adding 7 to both numerator and denominator.

From the above illustration it may be readily seen that adding the same number to both numerator and denominator of a proper fraction decreases the size of the fractional unit, and makes the difference between the resulting fraction and 1 grow less with each addition.

PRIMARY LESSONS.

BY FLORENCE BASS.



I.

The New Year has come.
 This is January, 1900.
 It is midwinter now.
 The boys like to play in the snow.
 See their funny snow man!
 They like to play with their sleds,
 too.
 It is fun to coast down hill.
 It is fun to skate on the ice.
 The boys do not mind the cold.



II.

Ruth hung up her doll's clothes
 to dry.
 She said: "Fly away, waterdrops,
 You have made these clothes
 clean.
 Now fly up to the clouds."
 Soon they were up in a gray
 cloud.
 The day grew quite cold.
 Snowflakes began to fall.
 "O! look at the snow," said Ruth.
 "I wonder if those snowflakes were
 in my clothes?"



III.

The snow lay on the roof for
 some time.
 Then a warm day came.
 The snow began to melt.
 It ran down and made pretty
 icicles.
 Next day was warm again.
 The icicles began to drop, drop
 into the trough.
 "There are my waterdrops," said
 Ruth.



IV.

Once a little pine tree was very
 unhappy.
 It looked at all the trees nearby.
 It saw how beautiful they were.
 "I wish I were as beautiful as
 they," it said.
 "I do not like my sharp green
 needles.
 I wish I had leaves of gold.
 Then I should be the finest of
 trees."



V.

What a strange thing happened!
 Next morning the pine tree had
 leaves of gold.
 How proud it was then!
 Soon a thief came along.
 He pulled off every leaf.
 He carried them away in a bag.
 Poor little bare tree!
 "O! if I had only wished for glass
 leaves!" it said.
 "No thief would want them."



VI.

Next morning there was a great
 surprise.
 The tree was no longer bare.
 It had beautiful glass leaves.
 How they shone in the sunshine!
 By and by a great wind blew.
 Every leaf was broken.
 The poor little tree was again
 bare.
 "Dear me! If I had only wished
 for leaves like the other
 trees," it said.



VII.

Next morning there was another
 surprise.
 The tree had little green leaves.
 "These are very good," it said.
 Soon a goat and her kids came by.
 They saw the fresh green leaves.
 They began to nip them off.
 Soon every one was gone.
 "Oh, dear!" said the little tree.
 "How foolish I have been!
 I wish I had my needles again."



VIII.

Next morning the tree was again
 surprised.
 There were all its fine needles
 again.
 "How beautiful they are," said
 the tree.
 "No thief will steal them.
 No storm will break them.
 No animal will eat them.
 They are the very best leaves
 for me to have.
 I would not change my needles
 for any leaves."

THE TOWNSHIP INSTITUTE.

SIXTH MEETING.

ORGANIC EDUCATION.

GEO. W. NEET.

OUTLINE.

1. Chapter VIII.

- (a) Read as a whole and study "The Story" in connection with grade and character before considering the "comparison."
- (b) Examine the work under "Comparison," "Measure" and "Expression" in the same way.
- (c) Give close attention to the lists of reference books, pictures and reliefs.
 - (1) Consider means of obtaining such of these as may be desired and the process and value of using them.

COMMENT.

The directions in the outline for the sixth institute on "Organic Education" are to study through as a whole "The Story," "Comparison," "Measure" and "Expression," and "give close attention to the list of reference books, pictures, and reliefs," as presented in Chapter VIII. This offers difficulty because of the large amount of work necessary to be done. There are fifty-nine stories to be mastered and more than that number of comparisons, measures and expressions to be studied, together with a large list of suggested reference books, pictures and reliefs.

This work at first reading seems unreasonably arduous as well as chaotic, but, when once some of the leading ideas are grasped, much of this difficulty disappears. So in the present study an effort will be made to organize the work asked for by tracing out some important thoughts running through the entire chapter.

The fact should be noted, as indicated in the comment on last month's work, that the most comprehensive thought running through the whole chapter is that of adapting a course of study based upon child psychology to the wants of the children at various stages of development in the eight years of primary school work. Analysis of character and ethical aims were discussed to find a rational basis for the course of study outlined here.

Although the author does not expressly say so, still it is plainly to be seen that she believes in the biologic idea of life. That is to say, she believes that it is the business of education to prepare the child to do something, and that acquirement of any kind which does not turn over into some kind of activity is not worth while. This idea is plainly manifest in the "expression" and "measure."

It is evident, too, that the course of study as arranged aims constantly at correlation. It is on the whole a magnificent scheme of correlating the work for the entire eight years of the primary school course. In this plan of correlation history as typified by the various characters in their setting is made the center around which all things are grouped. The various stories about Kablu bring out his appearance, clothing, house, school, industrial life, state and church. Those about Darius bring out ideas of his appearance, his clothing, his house, his food, his school, the social life, the industrial life, the state and the church. The stories concerning the other characters are similar. But all this material for study in these fifty-nine stories is historical, and around the stories

all the other work clings. In fact, according to this course of study, history is the only subject to be taught in such a way as to recognize that school subjects have organizing principles running through them. The plan proposed recognizes, either purposely or accidentally, that history in its essential nature is the struggle of the race for higher life; that this struggle is continuous, constituting a stream of growth, and that this growth manifests itself in the phases of life set forth in the stories. This growth is hinted at in the comparisons, which always suggest how it was then and how it is now.

But since the whole plan must conform to the idea of correlation, upon which it is organized, in no subject outside of history, the center, are the logical relations in the subject itself to be brought out. If we speak of the relations running through a subject, such as grammar, geography, and arithmetic, as parallel relations, and those inter-relations between the facts in the various subjects, such as those of history and geography, as cross-relations, it can be said that this course of study constantly emphasizes the cross-relations. This is no doubt well enough in the lower grades, but it would be difficult to prove that these cross-relations are more valuable to children in the sixth, seventh and eighth years than the logical sequence of relations in the subjects themselves.

And again this plan of correlation, as ingenuous as it is, certainly makes the geography, arithmetic, and nature study work very confusing. It appears so mixed up and chaotic.

There is, however, much help to be had from the study of the "story," the "comparison," the "measure," and the "expression," as discussed by the author. They will pay the teachers well for careful, conscientious study.

The stories show what to bring out and what to emphasize in teaching such work as "Hiawatha," the characters in "Ten Boys," and in any kind of biographies. And this is a kind of work in which we nearly all need direction. We all believe in it, but recognize that oftentimes not much value is to be had from it because of the unskillful way the work is done. It certainly is an excellent line of work if well done, but easily made trifling by poor teaching. If it is chiefly made oral work, it is in harmony with the truths of child psychology, and thus has a rational foundation.

The comparisons give direction as to the correct way to deal with the material presented in the stories. Here the author seems at her best, and has certainly given help to all who will avail themselves of it. In the "comparison," on page 131, the author shows well the idea of growth to be brought out. Note that the comparisons are made "to discover what progress has been made in the conquest of environment, in co-operation, and in division of labor."

The measures indicate how the number work is to be correlated with the material given in the stories. This is very suggestive and will prove beneficial to many teachers. It does seem, however, that the plan slights the logical relations in the number work, and that it not even hints at such a thing as the fact that number is a science.

The expression, while hardly practical in some of its phases in many schools, is on the whole good. It does not carry expression in writing to the extreme, but seeks oral expression largely, together with drawing, modeling, molding, sketching, etc.

There are good suggestions as regards the free use of good literature all through

the entire course. Not all these things suggested are accessible to any teacher perhaps, but from such a number of suggestions in regard to literature, reference books, pictures, statuary, etc., every teacher will doubtless find something in reach.

While there are some things in the work for this month with which many will not agree, still a careful study of the work as a whole will be valuable to any teacher. Nothing short of a mastery of the thought, purpose, and plan of the author as set forth in this chapter should satisfy any really earnest teacher.

HOW TO TEACH READING IN THE PUBLIC SCHOOLS.

GEO. W. NEET.

OUTLINE.

I. Emotion.

- (a) How can we develop the emotional powers of the child by appealing to his own experience?
- (b) What suggestions can you gather from this chapter that will help us to overcome the pupil's shyness in expressing the deeper feelings?

II. Atmosphere.

- (a) Illustrate by reading the example on page 189 what you understand by Atmosphere.
- (b) What element of expression will manifest the Atmosphere? Illustrate by reading aloud the selection, page 193.

COMMENT.

Emotion.—In order to understand the question of emotional development and communication, it is first necessary to understand the psychological question of the nature of emotion, or feeling. The teacher may have some vague ideas of emotion and proceed to develop it, but as a rule his results will be about as unsatisfactory as his ideas are vague. There is absolutely no other guarantee of success

in developing emotion and stimulating to its communication in reading than that of understanding well emotion from a psychological standpoint. So a few words on this.

One is able through consciousness to see his mind in a condition, then in a short time he sees his mind in a different condition. Thus the mind knows that it changes. These changes are the mind's experiences. Every experience the mind has changes it permanently. It never again is after an experience what it was before. Some of these experiences change the mind for the better and some change it for the worse, but all change the mind permanently in some way. The fact that every experience changes the mind permanently means what is called the value of an experience. If the experience is in harmony with the growth of the mind towards its realization, the experience is said to have a positive value; but if the experience hinders or tends to hinder the mind from realizing itself, the experience has a negative value. Now, the mind possesses the ability of knowing to some extent the value of an experience to itself. So when the mind has an experience, and becomes aware of the value of this experience to itself, the state of mind which arises is feeling, or emotion. That is to say, feeling, or emotion, is the state of mind which arises when the mind becomes aware of the value of an experience to itself. Thus emotion is always an accompaniment of experience.

From this it is plain to see that emotion is always to be induced, regulated, controlled and inhibited by dealing with the experience. No one can control his emotions directly; he must do it by controlling his intellectual experiences.

Now, the emotional powers of the child can be developed in appealing to his ex-

periences, in that, by appealing to his past experiences, the experiences are reproduced, and to a greater or less extent the accompanying emotion. But this is a complex question. Experiences arouse entirely different emotions in different people, depending upon a half dozen things. So the attempt to arouse emotion would of necessity arouse different emotions in each individual of a class. So in reading a selection a half dozen pupils might read it in a half dozen ways, each expressing the emotion aroused in him, and thus reading it correctly from his viewpoint.

No child can read "Maud Muller," "The Barefoot Boy," or "The Old Oaken Bucket" correctly, if he must have the emotions the author had, in reading it.

The suggestion that the shyness and modesty in expressing deep feeling may be overcome by practice in impersonating is a good one. This is just the use of impersonation in teaching reading. It must not be understood, though, that one who is impersonating is reading.

Atmosphere.—This, as the author treats it, is a characteristic of oral expression. It is that characteristic of oral expression which shows the reader's grasp on the thought and feeling embodied in the selection in their congruity. Every piece of literature is a work of art. Atmosphere shows the reader's grasp of the selection, or passage, from the artistic point of view.

Many teachers will remember when we as students were required to read the following, from the colon on, in a whisper:

"While thronged the citizens with terror dumb, or whispering with white lips: 'The foe! They come! They come!'"

This kind of expression lacks what the author calls atmosphere.

The element of sympathy with the author will manifest the "atmosphere."

DEALING WITH CHILDREN.

A child's knowledge is limited, and he can be easily turned aside from inquiry into a realm of fact with which he is unacquainted. This gives rise to the very common practice and belief among adults of "fooling the children." In matters of discipline often do we see an attempt "to fool" the child into obedience, little thinking of the very serious results that may come to us as a parent, friend or teacher, through such a practice.

The act itself may be soon forgotten by the child, because it is not natural for him to hold malice, hence he dismisses the act, but the discernment of spirit he can not dismiss. When it comes to the discernment of spirit and character, or to the testing of reasons for or against a given cause of action, a child is less likely to be deceived than is a person whose perceptions have been blunted through misusing. This is true particularly of the teacher and parent who are being continually judged by their pupils and children; and these judgments are more than likely to abide through life. Conventional ways impose on men and women in ordinary social life; such things have no interest for the children. They may go so far as to imitate this conventionality; but it is nothing but imitation with them, and they so impress you. They do not want you to think them sincere, so careful are they to act the imitator. In dealing with children there is no time when we, as friends, should be other than fair and honest with them. We should always keep in mind the fact that there is one place where we are measured at our true worth, and that is when we are dealing with children, be that the family or the school.

D. M. G.

Indiana School Journal.

PUBLISHED MONTHLY.

D. M. GEETING, }
 GEORGE F. BASS, } - - - - - Editors.
 ELMER B. BRYAN, - - - Associate Editor.

Discontinuance.—The Journal will be discontinued when the time for which the subscriber agreed to take it has expired. The figures preceding the dash on your label give volume of Journal; those following, the number of the volume with which your subscription expires.

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Change of Address.—When a change of address is desired, the subscriber must give both the old and the new address.

Price.—Subscription price is ONE DOLLAR a year. Single copies 10 cents.

Address all communications to

INDIANA SCHOOL JOURNAL,
Commercial Club Building,
INDIANAPOLIS, IND.

Entered at the Indianapolis postoffice as second-class matter.

ERROR.

Last month in giving the names of the members of the State Board of Education, by some unaccountable oversight the names of J. J. Mills, W. T. Stott and E. G. Machan were omitted. We hasten to correct the error by inserting a corrected page in the front part of this number. This page should be bound in Volume XLIV instead of the one given in the December number.

THE STATE TEACHERS' ASSOCIATION.

In providing for admission by ticket to the Association, the Journal thinks that the Executive Committee did the proper thing. Every one of us should assist in the fullest degree in making this meeting a great success, not only by coming ourselves but by inducing our friends to come. The program is a most excellent one, and we all need the inspiration that comes from such a gathering. Indications

point to a large attendance, and every one on the program is ready for duty. The retiring President is ready to hand the gavel over to his successor. The incoming President is not only ready but anxious to add what he can toward a successful meeting; the Recording Secretary has her pencil sharpened ready for the record, and the Treasurer is not only ready to hand over your tickets to you, but he is actually anxious about it. May the spirit of brotherly love so permeate the whole meeting that it will be one of the best ever held in Indiana.

SUBSCRIBERS

Who have not yet paid their subscriptions to the Journal will greatly oblige us by doing so by the first of the year. The price at which the Journal is furnished is made so with the expectation that all will pay subscriptions according to promise. We can then furnish you a better paper and you will be saved the annoyance of collectors. Pay the agent with whom you subscribed, if possible. If not convenient, send to this office, and always give the name of the agent with whom you subscribed. Will you respond promptly to this request?

SUPERINTENDENTS' MEETING.

The meeting of the Department of Superintendence of the National Educational Association will be held at Chicago during the month of February. A committee, consisting of State Supt. Jones and Supt. Jno. W. Carr, has decided to make the Victoria Hotel headquarters for Indiana teachers. The hotel will make a rate of \$2.50 a day to members of the convention. The Journal knows that no mistake has been made in selecting The Victoria for headquarters.

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EDUCATIONAL INFORMATION.

RELATIVE TO TEACHERS' EXAMINATIONS FOR 1900.

Mr. D. M. Geeting, Editor Indiana School Journal, City:

I hear Sir—I have before me a number of letters from teachers inquiring about the examinations for 1900. Please publish the following information:

1. Examinations for County Common School, State High School and State Sixty Months' licenses will be held on the last Saturday of each of the first eight months of the calendar year.

2. The examination for Professional License will be held on the last Saturday of March, and for Life State License on the last Saturday of April. The State Board of Education is revising its rules governing the examinations of teachers for these two licenses, and will publish them in the revised form in the February issue of the Journal.

3. The examinations for County Primary School, County High School, State Common and State Primary Licenses will be held on the last Saturday of each of the following months, viz.: March, April and May.

4. Beginning with January, 1900, and continuing through the year, one set of questions in the Science of Education will be based upon Scott's Organic Education and one on general pedagogy, the teacher being privileged to select either set. The same arrangement obtains in the subject of reading—one set from Clark's How to Teach Reading, the other from the whole field of reading. All applicants for a Common School License of any grade are required to take an examination in Literature. The questions will be quite elementary and will cover the fields of English and American authors and selections.

5. By provisions of an act of the last Legislature, applicants for any grade of license, except a Six Months' Common School License, may elect to have their manuscripts graded either by the County Superintendent or the State Superintendent; a license issued by the former is valid to teach in the county

in which it is issued; one issued by the latter is valid to teach the subjects in any part of the State.

For convenience the State Licenses are classified as follows:

1. The Life State License, general average of 75 per cent., not falling below 60 per cent. in any branch, will be known as a license of the First Grade.

2. The Professional State License, general average of 75 per cent., not falling below 60 per cent. in any branch, will be known as a license of the Second Grade.

3. The Sixty Months' or High School State License, described under Section 2 above, will be known as a license of the Third Grade.

4. The Thirty-six Months' State License, valid in any county, general average of 95 per cent., not falling below 85 per cent. in any of the "Common Branches," will be known as a license of the Fourth Grade.

5. The Twenty-four Months' State License, valid in any county, general average of 90 per cent., not falling below 85 per cent. in any of the "Common Branches," will be known as a license of the Fifth Grade.

6. The Twelve Months' State License, valid in any county, general average of 85 per cent., not falling below 75 per cent. in any of the "Common Branches," will be known as a license of the Sixth Grade.

The examination for a Sixty Months' License must be taken in two sections or divisions, the grades being as follows: The first division, an average of 95 per cent., not falling below 85 per cent. in the "Common Branches;" the second division, an average of 75 per cent., not falling below 60 per cent. in any of the five branches, as follows:

Group 1. Literature and Composition (required by all applicants).

Group 2. Algebra or Geometry (one required).

Group 3. Botany, Zoology, Chemistry, Physics, or Physical Geography (one required).

Group 4. History and Civics, or Latin (one required).

Group 5. One subject from "2," "3," or "4" not already taken.

Five subjects are required in this division.

In order to secure a Sixty Months' License the MSS. of both divisions must be sent to the Department of Public Instruction, by number, for gradation. The fee of \$1.00 must be sent with the MSS. in each division.

Applicants for a Twelve, Twenty-four, or Thirty-six Months' State License, use the same questions that are used in the regular county examination.

Manuscripts for State Licenses should be sent to the Department by number. The name of the applicant should not appear on the manuscript; but the name of the county in which the examination is taken, the names of all the counties and States in which the applicant has taught, the name of the county in which the applicant taught last, and where and how long the applicant has studied should be plainly set forth on the manuscript.

Applicants for a Sixty Months' License should indicate on each manuscript the number of the section, as "Section 1" or "Section 2."

The County Superintendent should record the number and name of the applicant, together with the date of examination.

One dollar should be sent with each manuscript.

The item of schoolroom "Success," graded from 50 to 100, by the Superintendent under whom the applicant last taught, should be sent with the manuscript.

All applicants should write in regular manuscript books, except when writing for a Life State or Professional Certificate.

The name of the applicant and his post-office address should be left with the County Superintendent, without fail.

Very truly,

FRANK L. JONES,
State Supt. Pub. Inst.

MISCELLANY.

The attendance at Hanover during the present term is fully up to expectations, and the regular college work is progressing nicely. The Journal of Hanover College announces the resignation of Prof. A. P. Kell, Chair of Latin and Modern Languages, to take place early next June. Also the retirement of Prof. F. L. Morse, Chair of Mathematics, to take place after commencement of this year.

D. C. Heath & Co., Publishers, Boston, announce for early publication, *A Briefer Course in Physiology*, edited by B. P. Colton, author of "Physiology: Experimental and Descriptive." The work contains all the improvements in method and arrangement that were first presented in the author's advanced work. It is admirably adapted to the needs of schools that wish to secure the best results both in knowledge and training.

The teachers of Elwood and Alexandria have united in providing a lecture course, consisting of six numbers, given by the following able instructors: Dr. James A. Woodburn, Dr. D. W. Dennis, Prof. Howard Sandison, Pres. W. W. Parsons, Dr. Thomas Moran, Mrs. May Wright Sewall. The first three named will be heard at Elwood, the last three at Alexandria. To the teachers outside Elwood and Alexandria and to the public in general free admission will be granted.

The Ripley County Teachers' Association held a very interesting session, December 1 and 2, at Versailles. One hundred and twenty-three teachers out of 132 employed in the county were present. The instructor was Prof. Foley, of the State University, assisted by local talent. Prof. Foley's talks were good in every sense. He lectured on Friday evening on "Science in the Common School," which was full of interesting things.

We are in need of September and October issues of the JOURNAL for 1899. We will extend the subscription of any subscriber one month for each number received.

The program for the Foundation Day exercises of Indiana University, January 20, 1900, includes an address by Mrs. May Wright Sewall, of Indianapolis, and one by the Hon. Charles L. Henry, of Anderson. Governor Mount will preside. This is the first time in the history of the University

that a woman has given the principal address, and the fact that it will be given by Mrs. Sewall will make it especially interesting to the educational public.

At the November meeting of the Board of Trustees of the Indiana University, a telescope with a 12-inch object glass was ordered, and an observatory will be erected at once on the University campus. This will be the largest telescope in the State, and is the same size as those owned by the Universities of Michigan, Illinois and Ohio. The observatory will doubtless be named after Dr. Daniel Kirkwood, who was for thirty years Professor of Astronomy and Mathematics in Indiana University.

Our correspondent from Franklin College writes: It is always a satisfaction to know that our methods of teaching meet the approval of those best capable of judging. Dr. Friedrich Paulsen, of the University of Berlin, has made extensive reference to the later method of teaching Latin in Germany. The changes which he seems to approve have been used in our Latin Department for some time. A main feature of the new system is a less servile dependence on the dictionary and grammar, and more dependence on rational interpretation of language as a life, and not as a mechanism.

The schools of Bloomington are progressing in a very satisfactory manner under the supervision of Prof. W. H. Glascock. His entire corps of teachers visited the Indianapolis schools two days during the latter part of November. Each teacher was assigned the duty of visiting a certain grade each day, and on their return to Bloomington, an experience meeting was held, and notes compared. The results of the visit were in every way satisfactory to Professor Glascock and his assistants. Professor Glascock is a graduate of Indiana University, Class 1898, and completed the work for the M. A. degree last year at Chicago University.

Attention is called to the fact that the Department has recently published a wall map of the United States, prepared under the direction of the Commissioner of the General Land Office, 4 feet 11 inches by 7 feet 2

inches in size, mounted on muslin and attached to rollers ready for immediate use. In addition to the features ordinarily characterizing maps of the country, on this are shown by clearly defined boundaries, the several acquisitions of territory upon this continent by the Government of the United States as determined by the latest investigations, together with all military, Indian and forest reservations.

It is supplied by the Department at eighty cents per copy, the cost of printing, mounting, etc. The law permits the sale of only one copy to any individual, but to schools and other institutions as many copies can be furnished as are desired for separate buildings or departments.

The Department also publishes small maps about 2½ by 3 feet, unmounted, of the several States and Territories in which public lands of the United States are located, which are sold at 12 cents per sheet.

All remittances in payment for maps should be by draft or postal money order made payable to the order of the Financial Clerk, Department of the Interior.

EDWARD M. DAWSON,
Chief Clerk.

Dep't of the Interior, Washington, D. C.

PERSONAL.

P. V. Voris, formerly superintendent of the Danville schools, is doing advanced work in Philosophy and Pedagogy at Indiana University.

Mr. U. H. Smith, for five years a teacher of Mathematics in the Anderson High School, has been elected Assistant Registrar of Indiana University.

Prof. E. E. Griffith, Associate Professor of English in Indiana University, has a year's leave of absence, which he is spending in New Mexico for the benefit of his health.

Andrew C. Life, who received his Master's degree at Indiana University last year, and who has been in the science department of the Greensburg High School, has recently been elected to a similar position in the Wichita (Kansas) High School.

A census of the students at Indiana University this term shows that sixty-four per cent. are church members. The total number enrolled this term is 632, which is the largest fall term's attendance in the history of the institution. Of this number there are 122 Methodists, 112 Christians, 60 Presbyterians, 18 Baptists, 16 Catholics, 14 Friends, 10 Episcopallians, and 54 who belong to various other churches from one to four each.

Arthur Griffith, an eighteen-year-old boy of Kosciusko County, has been spending the last two months in the Psychological Laboratory of Indiana University. Mr. Griffith is a mathematical prodigy and under the direction of Professors Bryan and Lindley, of the Department of Philosophy, has performed some interesting experiments. He is regarded as a mathematical wonder, and the experiments will be continued, and their results published. During the Thanksgiving vacation Mr. Griffith went with Dr. Swain to Danville, and Prof. Lindley to Brazil, where he gave interesting public tests of his powers before the teachers' associations.

The graduates and friends of Indiana University have made arrangements for two banquets during the coming vacation that promise to be unusually pleasant affairs. One will be at the Bates House, Indianapolis, Wednesday evening, December 27, and the other at St. George Hotel, Evansville, Friday evening, December 29.

Indiana University has recently received donations from two distinguished citizens of the United States—one a Democrat, the other a Republican. Hon. Wm. Jennings Bryan has donated the sum of \$250, the interest on which is to be applied annually as a prize for the best essay by a student of the University on some subject connected with the science of government. Hon. John Watson Foster has donated the sum of \$500, the interest on which is to be applied annually as a prize for the best essay by a student of the University on some subject connected with the political development of the United States.

BUSINESS NOTICES.

Victoria Hotel, Chicago, will be headquarters for Indiana teachers who attend the meeting of the Department of Superintendence to be held during the month of February next. Rate, \$2.50 a day.

SUMMER TOUR TO PARIS EXPOSITION.

Supt. Charles F. Patterson, of Edinburg, Indiana, will conduct a special party to the Paris Exposition, leaving New York, Saturday, June 30, 1900. An assignment of space on the fine steamship, City of Rome, has been secured for sailing on the above date, and positive reservation of state rooms can now be had by those who wish to join the party. The following are some of the principal places visited:

Moville, Glasgow, Edinburgh, Melrose, York, London, Dover, Ostend, Brussels, Paris. The return will be via Calais, Dover and Canterbury to London; thence to Windsor, Oxford, Stratford-on-Avon, and Warwick Castle, to Chester, Glasgow, and homeward, arriving New York, Monday, August 6th. The trip will thus occupy 38 days, and the cost for the round trip from New York will be \$260 to \$278, according to location on steamship. This will include first cabin berth, and in Europe, railway fare, two hearty meals per day, carriage drives and a fine coaching trip through some of the finest scenery in England, and admission to Exposition and all necessary expenses, except those of personal nature, such as laundry bills, theater, etc. It also includes the services of experienced conductors and guides in Europe who speak the languages. These will look after all details and relieve the party from the trouble incident to travel and the unnecessary demands for petty expenses which so greatly mar the pleasure and consume the time of the individual traveler.

Diagrams of steamship and other details furnished on application to undersigned,

CHARLES F. PATTERSON,
Edinburg, Ind.

BOOKS AND MAGAZINES.

Mr. Edwin Markham's remarkable poem, "The Man with the Hoe," is to be brought out in a small volume with a noteworthy introduction by the poet himself. This will be particularly interesting, in view of all the discussion caused by the poem, as it will be Mr. Markham's first words of explanation of his rugged beliefs. Published by Doubleday & McClure, New York.

The Silver Series of Language Books, by Albert LeRoy Bartlett, A. M. First Steps in English. For Third and Fourth Grades, 176 pp. Beautifully illustrated, cloth. Introductory price, 38 cents. The Essentials of Language and Grammar, 318 pp., cloth. Introductory price, 62 cents. Silver, Burdett & Company, publishers, Boston, New York, Chicago. Mechanically, both books are models of their kind. The clear, open page, the judiciously selected type, help to bring out the value of the text. First Steps in English is beautifully illustrated with exquisite color pictures and reproductions of famous paintings and of original drawings. The cover designs of both volumes are novel and artistic. Something more will be gained from these books than a knowledge of the rules of grammar and the ability to speak and write correctly. A love of the beautiful in nature and a taste for the best in literature, must inevitably grow out of careful study of the many fine selections and their discriminating analyses. It is not too much to say that the children who are privileged to use these books will be early initiated into that rare culture of heart and brain which is the outcome of familiar acquaintance with the true and the beautiful.

The American Book Company makes important additions to its High School and College List by the purchase of the Harper texts.

For the past few years the American Book Company has been pursuing the policy of constantly enriching its lists of publications in the direction of High School and College work. It has made connections with important authors, and has been developing its plans constantly to meet every demand for secondary and higher education.

When, therefore, Harper & Brothers, in their recent reorganization found it expedi-

ent to part with their high school and college text-books, the American Book Company saw an excellent opportunity to make a long stride in the direction in which their plans had been trending for some years, and, accordingly, purchased the entire list.

The books thus secured from Harper & Brothers number about four hundred titles. They include important works in literature, history, mathematics, natural science, and ancient and modern languages. A large number of these are well known to scholars and specialists throughout the country, and have been in publication for some years. These are works of standard excellence, which are practically without competition in this country. There is also the very widely used and approved Rolfe's Shakespeare in forty volumes, annotated for school use and special study, and other English Classics similarly edited. Then there are some twenty Latin, Greek and Classical dictionaries, which are monuments of critical study and are unrivaled in their respective fields. The Student's History Series, containing some thirty volumes, is well known in higher schools and to special students of history.

Among the recent works brought out by Harper & Brothers, which have had immediate endorsement of the best scholars and have enjoyed wide use among the best secondary schools of the country are Hill's Rhetorics, Phillips & Fisher's Geometries, Ames's Physics, Buehler's Exercises in English, and there are other still newer books which promise equally well.

An important consideration to the American Book Company in this purchase, as furthering their general policy in this line of publication, was the acquisition of a large number of books soon to be published, written by many of the best known men in leading colleges and universities.

Doubtless the change will be welcomed by the public since it will be a distinct advantage to schools and colleges to have these books furnished by a thoroughly equipped text-book house, devoting its energies solely to the business of educational publication, and closely in touch, through its numerous depositories and agents, with the institutions of learning throughout the country.

Indiana School Journal

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VOL. XLV.

FEBRUARY, 1900.

NUMBER 2.

1899.

INDIANA STATE TEACHERS' ASSOCIATION.

FORTY-SIXTH SESSION.—HALL OF REPRESENTATIVES, STATE HOUSE,
INDIANAPOLIS, DECEMBER 26, 27, 28, 29.

On the evening of December 26, the meeting was called to order by the retiring President, F. M. Stalker, of the State Normal School. After devotional exercises, conducted by the Rev. W. A. Quayle, Prof. Stalker spoke briefly on the "Problem of Education," and then introduced the President-elect, W. H. Glascock, of Bloomington, who delivered his inaugural address on the subject, "Art in Education." The following is the address in full:

America is rich in the forces and conditions essential to high art achievement, yet we are without any great art. Our art productions and possessions have not entered largely into the life of our people as a culture influence. In our eager haste for material progress we have lost sight of some of the finer things of life, and have all too narrowly kept our minds and energies turned toward the purely practical as an end, and have laid hold of the means that would enable us to reach that end most surely and most directly. We have been too much occupied with the task of building a nation and of accumulating wealth to give ear to the finer voices of the spirit. Use and beauty have been divorced and the stress of our living laid upon the useful. The many have grown into the custom of expressing themselves in terms of the useful; a very few have sought expression in terms of the beautiful; while comparatively little effort has been made toward expressing the useful in the most beautiful way. There is no great need of a high sense of the beautiful on Wall Street or where the bulls and bears make their daily forays. No exalted conception of harmony is necessary in driving a shrewd bargain or in organizing a trust. Our life has not all been stock jobbing and wheat dealing, but the spirit of

gain has been so dominant that it has almost drowned the voice of the beautiful within us as it has plead for a fuller recognition of the art element in human nature. In this hurried struggle we have been led into a one-sided development. The demand has been for greater intellectual power, and the emotional side of our nature has been neglected. This demand has been met to the full, and great wealth has been accumulated. If we are wise we will equalize our development by adding feeling to intellect and will turn our gathered wealth back into life as a means of higher culture.

Science has been the dominant influence in our material achievement during the past fifty years. It has also in a large measure contributed to our intellectual growth. It has transformed our industrial and social life, and as fully changed the courses of study and methods of instruction in our educational institutions. It has been able to accomplish this work and establish itself through its close relationship to the life of the people. It has been brought into immediate contact with the things whereby the people live, and has thus been made to supply in part their daily needs. As soon as it touched human life in such manner as to give to itself an economic value there came a demand for larger and better training in science. Where the relationship between the school and the community is so immediate as it is in America, any demand from the people will meet with a ready response from the school. To meet this growing demand both the secondary and higher institutions of learning have been compelled to change their methods of instruction and reorganize their courses of study. Science now no longer dwells with the few in the higher places of thought, but has become a part of the common thought and action of the whole people.

The demand which science has made upon

the individual has been essentially an intellectual one. The emotional element in human nature has necessarily been given little opportunity for expression, as projecting the emotional side of the individual into scientific study at once renders purely scien-



W. H. GLASCOCK, PRESIDENT.

tific results impossible. Such a development is neither full nor healthy. There is much of humanity that is not represented in the intellect. In truth, the best of human life lies beyond the reach of demonstration and the power that demonstrates; neither can it be discovered by the aid of the microscope nor expressed in a chemical formula. The proven and provable world cannot satisfy the ceaseless longing and aspiring of the human soul. A purely intellectual response to the questionings of humanity in the presence of the glory and the mystery of the universe can furnish no answer to the hopes and prophecies of human life.

The present art movement grows out of the recognition of a need beyond the reach of science and intellect unaided. The people are becoming conscious of an abundant and beautiful inheritance into which they have not yet come. It is the eminent duty and privilege of the public schools of America to bring our whole people into full possession of this new-found inheritance of beauty. It is their special function to form a proper social life. As a mediator between the child and the social organization they are to select from the complexity of social experience whatever is of greatest

value and bring it to the child, simplified and idealized, as a means by which he may be fitted to participate in and contribute to the highest social experience. That which is most worthy of preservation is to be lifted out of the useless and hurtful and made to add to the richness and fullness of the individual life, which in turn is to enlarge the best experiences of the whole social life. Herein lies the duty and the sacred opportunity of directing, enlarging and idealizing social experience. From the supremest moments of social living as embodied in art, the public schools may bring into the life of the individual child the beauty wrought out and kept by humanity, and then turn him over to society, capable of enlarging and beautifying social life and strong to share in and enjoy the life thus enlarged and beautified. To so develop in a whole nation the universal instinct for beauty that its people may come into the inheritance which the universe of nature and the world of humanity hold for them is an unusual task, but it is too sacred to permit a thought of failure.

The art instinct exists in every rational individual, making the enjoyment of the beauty of nature and humanity possible to all in a varying degree. It is the spirit of beauty within that enables us to find our small lives reflected in the larger life of beauty about us. It is the beauty within that causes the savage to prostrate himself before the storm and the rainbow, and the uncultured man to stand with bowed head uncovered in the presence of the beautiful and the sublime. The same spirit is at the center of the myths and folk-lore of the world. This capacity of the human soul to interpret beauty is the essence of Breton's "Song of the Lark," that causes the bare-foot peasant girl to forget the hardness of her lot and the demands of her labor and stand in mid field with sickle in hand, with muscles tensely drawn, with open mouth, and with body and head erect, entranced by the song of the lark as its music falls from the region of the clouds.

History throws light upon only a comparatively few centuries of the movement of the race toward the beautiful, but in the weapons, textiles, architecture and pottery of primitive man we are able to read a comparatively consistent story. Recent research into savage life as it still exists in some of the islands of the Pacific Ocean has given us much new and helpful information relative to the evolution of the aesthetic among the savage tribes. From the information gathered from various sources the conclusion may be legitimately drawn that from the first tattooing and scarifying of the body of primitive man to the painting of the last picture, the human soul has been struggling to express in the fullest way its innate longing for the beautiful. This evolution of the art instinct has been largely

an unconscious movement. Not until within the last century did the race become conscious of its own progress. Once conscious of its own development, it began to analyze its past experience and thus discovered both the forces and the method by which it has moved forward. The deduction, that the race will continue to move forward by the same means and method that have brought it thus far, has led humanity to emphasize certain phases of racial experience. Of the forces that have made possible the broader living of the nineteenth century, art is among the most prominent in the present consciousness of the race.

Humanity and nature hold treasures of beauty for every child of the race in proportion to his ability to interpret. From the beginnings of the race humanity has been slowly and unconsciously evolving its inner life of beauty along all the great lines of thought, feeling and action, and the highest moments of these centuries of experience have been caught and preserved as an inheritance for every soul, in which it may the more richly and fully live and through which it may rise to a more complete self-expression. None of the values wrought out by humanity and brought to the consciousness of the race have been lost. The race never loses a value of which it once becomes conscious. The beauty of the highest relationship of humanity to Divinity is expressed in Del Sarto's "Sacrifice of Abraham," the "Psalms of David," Murillo's "Immaculate Conception," Raphael's "Transfiguration," Da Vinci's "Last Supper," Van Dyke's "Crucifixion," Reuben's "Descent From the Cross," and Angelo's "Last Judgment." In like manner the essence of the highest life that the race has experienced in all its other relationships has been caught and made permanent by those skilled in the interpretation and representation of beauty. Thus the supremest life that the world has known in its ages of progress has been kept as the rightful heritage of every child of humanity.

We may not only look to art as a source of inspiration, culture and power, but through the forms of art to the social life which lies back of all art and without which no art is possible. It is only when humanity becomes so organized that it is conscious of the values it has worked out that there can be such a thing as art. When the experiences of the social group are of such value as to create a desire for their preservation in order that they may be re-enjoyed we have the motive for art production. The desire for the reproduction of the social experiences sets a problem, the solution of which requires the combined effort of the artist and the social group, and which solution creates conditions for further progress. Both the artist and his art are products of the social world. Through heredity, custom, home and school, the general forces

of the individual life are built up, and through the process of rejection and selection the artist is stimulated to higher expression in his special work. The social group has passed through some experience which it desires to re-enjoy without reliving. The general desire brings the artist to the front. In a certain sense he is set apart for his special work. When the experience is reproduced, the social group accepts or rejects the production according as it does or does not adequately express the social experience. In this manner the artist is constantly stimulated to express in the fullest possible way the most desirable experiences of the race. Through the interaction between the artist and his audience things are kept moving forward according to certain standards of value existing in the consciousness of the people. We will find at the center of the art products of a people the things that have been of greatest value to their life at any period of their history. Primitive man first craved the images of animals upon his weapons because he was most concerned with animal life. He must defend his family and himself against the wild animals, and from them he must obtain his food. Later, when he learned the value of vegetable life as food, medicine and clothing, we find more of plant and less of



GEO. R. WILSON, CHAIRMAN EXECUTIVE COMMITTEE.

animal life represented in his rude art. In the history of the race we find it ever rising to higher experiences and preserving the experiences by which it has risen.

Art study will not alone enable one to appreciate and enjoy art, but it will give a

method by which he may interpret the life behind the art—will afford a perspective through which he may determine the relative values of the influences which have been at work in the development of the race. Present knowledge will be increased



EMMA B. SHEALY, RECORDING SECRETARY.

and present life enlarged and enriched through knowing the kind of life that has been put into our social progress and institutions. Understanding the life out of which art has sprung, there will come a higher appreciation of humankind and a larger desire to preserve the institutions by which the race has moved forward. The individual, feeling the pressure of eternal humanity behind him, will have a more exalted conception of the duties and destiny of mankind.

The synthetic imagination resulting from art culture will further enlarge and enrich individual experience through putting joy into daily toil. It leaps at once to the conception of the whole and sees the various parts in their relations to one another and to the whole, and thus makes clear the values of the means in terms of the end. The one who has reached the vantage ground where he can comprehend the whole, and each part in its various relations, will be able to value rightly all the parts as means to a larger end, and will despise none, however small. A man so enlightened will be able to carry the value of the end back into the means, and the value of the means will be thus enhanced and the means dignified in proportion to the worth

of the end in view. In building a temple, the beauty and grandeur of the whole structure may be read into each intervening step and the joy of contributing to a great work be brought to every toiler on the temple. There is very little inspiration in toil as such, but illumined with the spirit of a great undertaking, it ceases to be drudgery. It matters not how remote or humble the means when man understands their value in the light of the end to be reached he will have a more exalted conception of his individual work, and will be led to better effort and more joyful living. If the toilers on the temple of King Solomon could have read the full glory of the temple into their daily tasks, the sound of singing would have filled the silence of those years of building. The power to read into every means the full greatness of the end will dignify labor, will relieve tasks of much of their drudgery and will put joy into the toil of the common laborer. Those who have wealth and leisure may find large happiness of living in travel, may buy books and have opportunity for reading and may purchase pictures and find time for enjoying them, but these include only the few. The majority of mankind must ever be "hewers of wood and drawers of water." These are in need of a light to shine in the dark places of their daily labor, a power by which they may construe their work and station in terms of lofty achievement. Higher humanity is pleading to have labor dignified and tasks glorified.

To those who can not have pictures of their own, and to others, when pictures are not possible, art culture will be of the highest and most joyful service. Nature we can always have with us, and to all in whom the synthetic imagination has been developed it will be a perpetual well-spring of happiness, a never-failing source of joy. Nature is not all beautiful because not all free. That alone is free and beautiful which is aglow with the self-active spirit within, which is given form, character and direction by an inner life. A high interpretation of nature requires an inner life made free through insight quickened by a cultured imagination. Inanimate nature is not free and beautiful because there is in it no self-activity. It can appear so only as it is identified with the life of humanity and is so disposed as to contribute to human interests. The office of the imagination is here most important. It must enter into the heart of nature and find there a looking and striving toward the service of the human spirit before all nature will seem beautiful. It will then appear as if disposed by some intelligent spirit within, and its appeal will be directed to the instinct for beauty in man.

Nature was not beautiful in any large sense to the ancient nor to the mediaeval world. Neither was it beautiful to the mod-

ern world until the individual recognized that he had the power of control within himself and threw off the yoke of external authority. In the world of literature, prior to the nineteenth century, nature was not made to contribute to the beauty of the soul. It was Wordsworth, with his keen insight and constructive imagination, who first recognized the kinship of nature and man and proclaimed the regenerating power of nature over man's spirit. The mountains of Milton are made to add to the already numerous difficulties of the human soul in the lower world, while the mountains of Wordsworth are made to contribute to the joy and beauty of living. The spiritual insight of Wordsworth enabled him to see into nature's heart and understand the inner life which gives it tone and power. This is the kind of insight that both represents and discovers freedom—an insight arising out of a developed and cultured imagination. One thus equipped will be able to construct his own pictures from his natural surroundings and make them glow with the fire of his own imagination; will be able to see temples and monuments in the woods, hills and mountains, and in field and stream and sky will be able to find landscapes of unlimited and ever-varying beauty. He will ever have within himself the power to enlarge, beautify and enjoy his own experiences. Having built his temples and framed his landscapes from the nature which is always about him, he can turn their strength, beauty and grandeur back into his own life as a larger means of culture and control. He will thus have within his own life a fountain of perpetual youth in which he may continually bathe and remain young in spirit. The narrowing and waning interests of old age may thus be enlarged and revived.

How can we bring the children of the public schools into this inheritance of beauty which nature and humanity hold for them? Thus far the effort has been confined chiefly to school room decoration. This is a necessary step in the right direction, but not the highest or final one. There should be naught but praise for the teacher who makes beautiful the room in which she teaches. The general tone of the school room will sink down into the deepest life of the child, giving color to his thought and feeling, and long after the lessons of the text have been forgotten the silent influences of that room will come to expression in his daily experiences. The gentle power of beauty must ever enter into and become a part of the life that lingers in its presence. For school room decoration, few, if any, pictures should be selected that do not stand for something in the world of art, nor should any picture be chosen that will not bring pleasure to the child looking upon it. Pictures that suggest suffering or wanton destruction of animal life should find no

place in the school room. The masters and their works should be made common to the children. The difference between the price of a poor picture and that of a good one is so small that no teacher is justifiable in placing poor pictures before her children. But contemplation of art will neither make artists nor interpreters of art, except as contemplation leads to action. The child is educated less through what he sees than through what he does. There is great hope for a boy when he lays his hand to a piece of work, sets himself some task that will not only arouse the forces of his life but will afford him an opportunity to organize and express these forces when aroused. Then he will give the best and fullest expression of his capabilities and at the same time will be fixing within himself a set of high habits that will be to him a constant source of strength and joy. The child may look upon the beautiful and love it to his fullest capacity, but it is only when he strives to express himself in terms of beauty that he grows most toward the beautiful. At such times good pictures will be of great



JAS. R. HART, SECRETARY AND TREASURER.

service in stimulating and guiding the child in his effort to embody the beautiful in his own expressions.

This means that the art which has hitherto lain outside of life must be brought into such relationship with experience that

It will contribute to a larger daily living. It must become allied with the things by which we live and through which he are ever seeking a fuller self-expression. Art will never reach the whole people until in some way it is made to enter into the serious questions of practical life. Science owes its development and present standing to the fact that it allied itself in a helpful way with the practical living of humanity. During the historical centuries many men have given their energies to science merely as such, but science for its own sake would never have led to large results. When the race discovered that its fuller progress depends upon the discovery of the laws and forces with which science deals, the whole people turned to science. The desire for better means of defense, communication, locomotion and transportation created a demand for research and invention, and the demand was promptly met by an interested people. The progress of the race has always been brought about in this way. Whenever in the forward movement of humanity a new problem has arisen the need for its solution has brought to the front those best qualified for the work in hand, and we have thus been enabled to say that whenever a man is needed for any great undertaking, the race will find him. So must art be made to contribute to the solution of some of the problems of daily living before we can hope to have it appeal to the masses.

During the centuries of effort the race has wrought out the method of its own progress. Through the historical perspective we are able to discover this method which we may carry over into individual life as a method of daily living. In general there is safety in using the method that has enabled the race to solve the problems of its existence and growth. The historical study of art shows us that both in its beginnings and its evolution art has been coupled with the serious problems arising out of daily experience. In truth, the question of living is at the center of all progress. Around this question the human family has ever rallied its most earnest effort and its highest thoughts and feelings. Interest in the living of the individual or the social group has always been a stimulus to action. Pictorial art has its beginning among the savage tribes in the custom of staining, tattooing and scarifying their bodies. These markings were not made to beautify the body but to serve the practical ends of living. When the warriors had their bodies thus marked they became greater objects of fear to the enemy, not only because of the appeal to the sense of sight but also because the markings were evidences of great courage. The warrior who had undergone the ordeal of tattooing or scarifying had little cause to fear an ordinary enemy. These children of

the race, like the individual child, did not distinguish between the beautiful and the useful. Use and beauty grew up together and were not separated until in very modern times. Along with the expression of the human soul, as forced by the needs of life, the elements of beauty have been evolved. Thus while the human family has always been urged forward in its progress by the needs of its own living it has ever sought to express its effort in terms of the beautiful; not at first beautiful to us as we interpret these expressions in the light of our present conceptions, but beautiful to them because they embodied most adequately their highest and most earnest experiences. The great problem of living must ever command the most serious thought and effort of the race; but possessed with a universal instinct for the beautiful, humanity will always express the results of its toiling, thinking, feeling, hoping and aspiring in forms of increasing beauty.

When use and beauty are reunited and art takes hold of the things whereby we live we will have a revival in the field of art such as we have experienced in the field of science. The individual and the race must ever advance through the solution of the problems that arise out of their daily experiences and cluster about their daily living. With art brought into daily life as a means by which some of these problems of living may be solved, the thoughts and efforts of the people will be turned toward it because of what it offers to everyday experience. The appeal will be direct and full of power. There will then come a demand for art and artists that will lead to a better and more inclusive training in the direction of art. This fuller training will bring about a higher appreciation of all that adds to the beauty of home and community life, and this will change the attitude of the whole commercial and industrial world. The people will get what they demand. The demand for more artistic forms will be met by a greater number of persons who can draw, design and teach; will at the same time create art and places for those skilled in art expression. It will bring to the front those most gifted in art conception and expression, as times of war bring out those best fitted by nature to command in battle. With the art instinct developed in a graded system according to individual talent, we would have not only a whole people skilled in art interpretation and appreciation, but higher art would be made possible through the interaction of the cultured folk on the one hand and the artist and his art on the other. The fact that the problem of living is at the center of the movement does not detract from the value of art any more than the same problem detracts from the dignity of human life.

The child must not only be a beholder but

likewise a producer of art if he is to come into the fullest appreciation and enjoyment of the beautiful embodied in art forms. These require that the beholder shall sense the value of the means employed in reaching the end, must become acquainted with the amount and character of the effort put into the production. All achievement must be interpreted in terms of effort, quantity and quality. The savage is not able to appreciate the most beautiful of expressions in architecture or the paintings of the masters because he can have no conception of the amount and quality of life that have been put into the buildings or the pictures. To get this sense of values one must as fully as possible live through the making of product, must find in terms of his own experience the amount and kind of life involved in the work. This he can best do by making an effort to put his own life into art forms and thus come into the presence of the difficulties encountered by the artist himself. Whenever he attempts to marshal and co-ordinate the forces of his own life so as to express his conception of the beautiful he will sense the value of the artist's power and understand how superior it is to his own. By entering thus into the experience of the artist he will find his own limitations and there will be presented to him problems calling for still higher effort. These moments offer to the guiding and inspiring power of art a supreme opportunity. The effort of the child to embody the beautiful in his own expressions has yet another value. In contemplating the beautiful and in striving to give it expression, the beauty contemplated and sought for will enter into his own life and give tone to all his living.

The basis of art culture exists in the longing of all child-life to go out after the beautiful. This instinct may and should be utilized in performing the daily tasks of the school room to bring the children now, and ultimately, the whole community to fuller expression and higher living. The spirit of art should enter into every task of the school. There is no distinction between the instinct that guides the pencil at the drawing hour and the one that controls the hand in copying a lesson or solving a problem, and none should be made. In connection with the school tasks, art should be made the means of solving the real problems in the child's educational life, and that, too, in a joyous manner. He will thus be given a method which he may carry with him into the practical affairs of adult life after the school has finished its work.

Within the child is the universal yearning toward the beautiful. Above and beyond him are the wealth of nature and the embodied ideals of the human race, his rightful heritage. Between the two there must come a mediator who is skilled in expression and is filled with the spirit of beauty, one who will open the gates of beauty and lead the

children by the joyous way of discovery into the land of the beautiful which is theirs by right of birth. We must have in the school room a teaching artist who is capable of leading the children to ever higher expressions of the unfolding beauty within, that in the beauty around and above them they may constantly discover the beauty of their own lives and out of this surrounding beauty may ever construct larger and richer experience.

Following his address the President announced the committees:

On Resolutions—R. J. Aley, Bloomington; C. M. McDaniel, Madison; Mrs. E. E. Olcott, Danville; John A. Wood, Laporte; E. A. Hutchens, Noblesville.

On Reading Circle—R. A. Ogg, Kokomo; F. D. Churchill, Oakland City; Geo. H. Tapy, Columbia City; W. D. Kerlin, Martinsville; Jas. F. Scull, Rochester.

After adjournment, each congressional district selected its member of the Nominating Committee, as follows: First District, W. H. Foreman, Petersburg; Second, J. F. Organ, Bloomington; Third, H. B. Wilson, Salem; Fourth, C. B. Newsom, North Vernon; Fifth, A. R. Charman, Terre Haute; Sixth, Dr. J. Frank Brown, Richmond; Seventh, Co. Supt. Landis, Indianapolis; Eighth, J. W. Carr, Anderson; Ninth, W. P. Hart, Covington; Tenth, J. W. Hamilton, Monticello; Eleventh, R. A. Ogg, Kokomo; Twelfth, Co. Supt. Tapy, Whitley Co.; Thirteenth, A. E. Murphy, North Judson.

WEDNESDAY MORNING, Dec. 27.

After devotional exercises conducted by Prof. C. W. Hodgin, Richmond, the Rev. F. E. Dewhurst, Pastor of Plymouth Church, addressed the audience on "Some of the Social Aspects of Education." He said in part:

Time was when the discussion was rife between the advocates for an education whose end was discipline and culture, and the advocates of an education whose end was utility and adaptation to practical life. The defenders of the classics and the sciences respectively have had many a bout upon these grounds.

There are two lines of growth along which in recent years we have taken enormous strides, and the results of this growth must certainly appear, and are already appearing, in our methods and our ideals of education.

The first of these lines of growth are concerned primarily with the individual being himself; the second, with the environment of this individual being. In other words, the

two sources of our greatest educational impulse and inspiration at present are psychology on the one hand, and sociology on the other.

That results of recent psychological investigation are already available for educational purposes, is apparent from the addresses to teachers upon psychology by Prof. James. This psychological insight, together with those fruitful principles from the Herbartian philosophy already made over into educational method, would convince us that all artificial and mechanical elements imposed upon so fundamental a reality as a living child, in contact with such another fundamental reality as the living world around him would soon or late find their way to that place where all bad things go.

I suppose our educational methods have not yet reached the point of adjustment with ultimate reality when it would not be pertinent in many instances, and a blessed relief, for the child to say, "It's no use; there's nothing in me to work on." And I have come to feel, regarding children of a larger growth, that they are often slandered, that all of us perhaps were slandered, even in the college days; that whereas the impression was that we would select the easy course and the soft snap if we had the chance, the fact was that as between two stupidities, we would select that stupidity which required the least exertion in response from us; but that the course which aroused interest, and the man who had the power to open up reality, could find students to follow him and to work for him to the limits of their time and strength. Who does not know that every wide-awake boy will work harder after school, between 4:00 o'clock and bedtime, at something which arouses his creative interest and capacity than he will in the whole term time, if those conditions are absent. Nothing is available for education which does not have some correspondence, some point of contact, some response in the real life of the learner. "The child's own instincts and powers furnish the material and give the starting point for all education. Save as the efforts of the educator connect with some activity which the child is carrying on of his own initiative, independent of the educator, education becomes reduced to a pressure from without. It may indeed give certain external results, but can not be truly called educative. Without insight into the psychological structure and activities of the individual, the educative process will therefore be haphazard and arbitrary. If it chances to coincide with the child's activity, it will get a leverage; if it does not, it will result in friction, or disintegration, or arrest, of the child nature."

The second factor in the discussion is the environment of this individual being. This external world which constitutes the human environment is a cosmos and a community.

First, it is a cosmos. Every child, almost as soon as he is born, begins to reach out into his world, and with the materials that come earliest to hand, to build up his universe for himself; and this itself is a process of education. Now, if at any time this natural process of adjustment between the individual and his environment is checked. If this spontaneous way by which the child builds up a cosmos out of the fragments around him is arrested, as it has sometimes been, e. g., in the supposed interests of the religious life, then there ensues an arrested development of some of the powers of life. An alien element is introduced which makes the wheels turn with great friction and perhaps bring them to a standstill. Left to himself, it might almost be taken for granted that the child would have built up a cosmos. Interfered with, he gets a divided kingdom, and the interests of reason and faith inevitably clash.

The second of the two aspects named is the community. In other words, the environment of man's life is a social environment. The individuals in the world are not unrelated, like so many pegs on a cribbage board. They are interdependent, mutually and organically related to each other. The fundamental bearing of this fact upon ideals and methods of education is obviously this: If every child is born into a world, which by its very nature and by the purpose struggling for constantly clearer expression, is a social and altruistic world, then the highest function of the teacher is to help the child, through the school, to make that connection which the world in an instructive and rudimentary way he begins to make as soon as he opens his eyes upon it.

As a small boy I remember that people used sometimes to decorate the mantels of that dismal spot they called "the parlor" with what used to be known as "clove-apple." It was an apple plugged to repletion with cloves. Every bit of the surface of the apple disappeared, punctured by these Mauser-like cartridges of clove, and the whole hideous thing was given the place of honor on the parlor shelf. What the apple was good for after it was plugged with cloves, what the cloves were good for after they had done their deadly plugging, and what the combination was good for, from the point of view of either culinary or esthetic art, I never knew and never since have learned. I fancy it may have been introduced into human history by a Providence, who is not devoid of a sense of humor, as a subtle parable, intended to remind future generations that an education which held the child up as an apple, and plugged him with certain facts and principles, was just as remote from real education as that nondescript monstrosity was remote from real art.

"It is not good for man to be alone" is the keynote of Creation's symphony. In the

home which is the child's first school, life opens out spontaneously and takes hold, in a natural way, of its relations, for, thank God! the system-makers have not tinkered with the home and made it artificial and arbitrary. The highest function of the school then is to allow these social activities to unfold as spontaneously within its sphere as they do in the home or in the unrestricted play of the child.

And while I trust nothing has been said to imply for a moment that we have not taken vast strides in educational method, or that progress is not being constantly made, it does seem apparent that vast accumulations of material are gathering which at no distant time will make possible strides in developing the social aspect of education greater than have ever yet been taken.

As Prof. D. K. Goss was unable to be present on account of illness, Prof. J. F. Brown, Earlham College, led in the discussion of this address. He said:

In the very suggestive paper to which we have just listened, the author has told us that the highest function of education is to help the child through the school, to make connection with the social world which he finds about him, and with which he instinctively desires and attempts to become acquainted; and the highest function of the school is to allow the social activities of the child to develop spontaneously within the sphere of the school, just as they actually do develop in the home and in the play. As a means to the attainment of this end, we are told, also, that the methods of education depend upon a correct understanding of child-nature, that is, upon a correct psychology. I am glad that Dr. Dewhurst has emphasized this foundation fact of all successful, systematic education.

Inspired by the great current interest in sociological questions, the social aspects of education now claim a larger place in educational discussions. And rightly so, for education that does not fit the individual to serve well the society in which he must live, is not the ideal education, to say the least. I wish, however, to revert for a moment to the question of means, and to emphasize the fact that correct methods of education, a science of education, if you please, must be based upon a correct psychology. As teachers, we do not know enough about the working of the minds with which we deal. The electrician knows perfectly how, under given conditions, the electric force acts. But we teachers, supposed experts in the work of education, go to our work; too often, without any adequate knowledge of even the well-established facts of general psychology, to say nothing of the more specific and less certain field of child-psychology, and individual peculiarities. Conscious phenomena are not dry abstrac-

tions for those who can see them and understand their significance. And this every teacher should be able to do as clearly, though not so certainly, as the chemist can see and understand the actions of his chemicals, or as the geologist can see and interpret the records of the rocks. Not less but more knowledge of psychology is needed, a better acquaintance with the sober facts of human consciousness. Only so shall we be able to help the child to his proper place in the community without crushing his individuality.

Dr. Dewhurst's plea for a system of education that shall assist the child to grow spontaneously into a knowledge of the cosmos and of the community in which he lives, is itself an example of the thought that comes from a better acquaintance and deeper sympathy with child-nature.

Prof. J. D. Forrest, Indianapolis, continuing the discussion, said:

To most Indiana teachers—for most of you seem to be more or less ardent disciples of Herbart—it is a commonplace to talk of the importance of presenting the subject-matter of education in such a way as to appeal to the child's interest. Now it is not out of place to show that the problems of pedagogy based upon child psychology really grow out of the fact that our educational system was called into being in response to certain social demands, and now remains practically unchanged, though the social conditions have radically changed. That is, the problems of pedagogy are largely set for us by social conditions; and, therefore, educational reforms must be worked out on a sociological quite as much as a psychological basis.

The primary school grew out of certain social conditions. It arose in the sixteenth century, when the art of printing, the discovery of the new world and the tremendous expansion of commerce and industry rendered it necessary for a much larger number of people to know how to read and write and figure. Opportunities for profitable employment as business men and clerks stimulated a great many young men to seek instruction in these primary branches, just as a great many now attend business colleges to learn how to keep books and write shorthand. The schools were in no sense intended for children, any more than business colleges are intended for them now. Now it is easy to see that the pedagogical problems involved in this kind of education were comparatively simple. But when conditions change, and little children take the place of mature youths and adults, the educational problem is vastly different. The appreciation of the nature of the child's interest and the importance of appealing to it has led to the adoption of the so-called kindergarten and inductive methods of instruction. These reforms have come none too soon; and we

must understand that so long as we keep little children in school we must seek to adapt educational methods to the child-mind.

Another social change has been going on—a change in the character of our home activities. We no longer spin or weave at home; we are ceasing to have tailoring and dress-making done there; if we live in a city flat, we consume foods largely prepared elsewhere. The child has almost no opportunity to receive instruction in any of the manual activities at home. Now this kind of instruction constituted an important part of early education. It was due to this, and in spite of the district schools, that our great men have come from the country; for it is in the country that the home life affords the greatest opportunity for the education of the constructive talents of the child. "Unless the child receives a training of his constructive faculties, unless he learns how to use his hands and eyes, before the period of adolescence he finds such work irksome and uninteresting; and if he can be induced to pursue it, the results will be far less satisfactory than they would have been if he had received such discipline at the natural time." The habit of dealing with reality, the practice of using eye and hand, as well as brain, the capacity for observing the relations of things as well as of words—these are essentials in education, if men are to think clearly and act with precision in either profession or trade. Here again, then, the change of social conditions presents a problem for education. It is being solved by the introduction of Sloyd and manual training into the public schools; and we shall sometime see that, far from being mere fads, these innovations are the more important part of educational method, and that along these lines still more important reforms may be expected.

Mrs. May Wright Sewall, Girls Classical School, Indianapolis, representing the "Local Council of Women," addressed the audience on "The Relation of the School to Society."

Considering its universal importance, the aggregate number of individuals that are directly affected by it, and the esteem properly attached to the school as the formal agent in the education of the child, the isolation of the school is surprising.

In the wonderfully interesting little book containing recent addresses by Prof. John Dewey upon this subject, this isolation is ascribed to the subjects of study, and the methods by which they are pursued in the school. Appreciating heartily the value of the experiment that Professor Dewey has been making in the University, and also setting a high value on his ability to discuss this subject, I yet take issue with Professor Dewey as to the cause of the isolation of the school.

After all is said and done, the important agency in the child's education is not the text-book, is not the particular branches of study; is not, indeed, manual training or the tools with which the child's hand is made familiar in such training, or the substances with which his mind is brought in contact. The essential factor in the education of a child is the character, the culture, the position of his teacher. The modern school is isolated, because the modern teacher is isolated. The communities in which the teacher takes a normal place in society, being neither elevated to the pedestal of the model on the one hand, nor reduced to the servility of a drudge on the other are relatively few. Of the two extremes occupied by the teacher in public esteem, that view which demands that in moral fiber, in learning, in manners, in temper, in self-abnegation he shall be the superior of all other classes in the community, is probably better of the two in its moral effect, both upon the teacher and his pupils.

The entirely one-sided character of modern education is partly responsible for the isolation of the school. The school has for the most part contemplated the child merely as a mental faculty. Not only has the teacher been expected to regard the child from a mental point of view only, but the processes by which the recognition of other sides of the child's life have been made have each in turn been considered innovations more or less dangerous, if not obnoxious to the public taste.

It is less than a quarter of a century ago that anything like a general recognition of the right of the child to physical culture was expressed. Schools have been conducted with the tacit understanding that the body was an objectionable accompaniment of the mind that was to be taught. The teacher who could ignore the body most successfully, hold the body in the most quiescent and passive attitude for the greatest length of time, other things being equal, was the best teacher. This ignoring of the body, of the demand of the physical nature, isolated the school in the child's mind completely from all other institutions or phases of life with which he came in contact.

No doubt every stage of life is most interesting and most important, considered as a preparation for the next particular stage, but through its process each stage of life is most important in its immediate functions. The parent regards the school as one of the mediums of preparing his child for adult life. Childhood is, however, no more certainly a stage preparatory to adulthood than adulthood is a stage preparatory to maturity, maturity one preparatory to age, et cetera.

A high state of consciousness must be developed in the child before he can be brought to regard to-day with relation to to-morrow.

To-day is valuable to the child for itself. Its pleasures are what he enjoys, its griefs what he deplores; its successes inflate him with triumphs, its failure depresses him with despair. Other things being equal, that life is the richest which has the keenest sense of the largest number of vital relationships, and an institution that feels itself isolated from the common life, by that sense of isolation may measure the degree to which it is torpid and paralytic.

Children are said to be the link between the school and the home. As school and home alike exists mainly for their protection and nurture, they may well be regarded as the vital bond, but childhood can not consciously avail itself of its high privilege of uniting these two institutions; and unless they see that they are united through the teacher and the parent, so far as the child is concerned, the school will remain isolated.

Society has made a great mistake by demanding of the teacher a kind of self-abnegation, the necessary end of which is isolation. Less than a quarter of a century ago it was certainly felt by the teachers of Indianapolis that it would be obnoxious to public taste were they known to be interested in the questions which interest the rest of adult citizens of the community. It was supposed for example that they should not go to the theatre, which was one way of saying that they should not interest themselves in the fine arts. It was supposed that it would not be best for them to express any political opinions; that, indeed, as teaching the children of both Democrats and Republicans, they ought not to have any political opinions.

Another reason of the isolation may be found in the fact that so large a number of the teachers in the school are women. Many of them unmarried women. Unmarried women are supposed to have a less stake in a community than married women. A hundred questions which are supposed to interest a household are equally supposed to be of no interest to the unmarried woman.

There is a view that is gaining ground that the less a woman has to interest her in other life, the more devoted she can afford to be to the school, and consequently the better teacher she will be.

On the other hand, if one would think about it a little, one would see that in all human beings the one needing to be most thoroughly human; that is, most keenly alive to his relationships, should be the human being who is to guide a child. No one needs the life of the club, the life of public affairs, the life of society, the life of the church, of the amusements, whatever they may be that are adapted to his taste, as the teacher needs them. Since the child should feel that his teacher is related to life on all sides, as by every such relation his own tie to the teacher is made more visible and more close.

To correct the isolation which is perhaps the chief defect in the modern school, let there be a more human appreciation of the teacher's proper character and just function. Let the teacher be exhorted to participate in the common life, to take his share in the community burdens. Let the parents, on the other hand be exhorted to know that annex to the home which is called the school, and finally let provision be made for that all around culture of the child which shall not only enlarge his mental self but shall also augment and vitalize his physical being, quicken his moral perceptions, awaken, teach and satisfy spiritual aspirations, and recognize and gratify the craving for social life.

President Glascock announced the following committees:

To Audit Accounts of Permanent Secretary and Treasurer—F. M. Stalker, Terre Haute; Horace Ellis, West Lafayette; J. K. Beck, Bloomington.

To Audit Accounts of Reading Circle Board—G. A. Roberts, Greensburg; Alexander Thomas, Marion; C. W. Hodgins, Richmond.

Wednesday afternoon, December 27, Prof. Sanford Bell, of Bloomington, addressed the audience on "Ethical Training During Adolescence." In the course of his address he said:

That the child's moral education begins at birth. That every experience has a moral content and counts in the formation of character. That the dominant side of the child's life is emotional, and is mainly consumed in satisfying organic and special sense impulses, that these are nature's aggressive principles that make the child active in coming in contact with his environment rather than passive in being affected by it. That the life into which the child is born is ethical and orderly, and that the essential of education is the formation of a set of habits that conform to the ethics of the family, school, church, State, society. That the child learns these habits in the main through imitation and prescription. That he does not know right and wrong as such, but by permission and prohibition. That the life he is to reduce to habit is infinitely complex, and the task monumental, and that we expect too much of the child. That the chief thing from the child's standpoint is the satisfaction of sensuous and sense impulses, and that the moral phase of life is the incidental one. He is not ripe for serious and moral dissertations.

At the period of adolescence the youth breaks away from prescriptive direction and begins to take charge of himself. It is the most critical period of life, for two reasons:

1. He rejects the insight of others.
2. He hasn't enough of his own to guide him aright.

These habits which he has formed during childhood will be a very large part of his salvation at this time. This is one of the very strongest arguments for early ethical training. The habits are moral. They represent the wisdom of the race. They are powerfully conservative and give ballast, and tend to offset the rashness and impetuosity of early adolescence. They also are dynamic as embodying the spirit of racial progress, and have a momentum that tends to carry this erratic, helpless, willful being in the right direction.

President A. H. Yoder, Vincennes University, read a paper on "The Management of Children During Early Adolescence." He said in part:

Pubescence marks the advent of the child into the larger sphere of life, the world of men and women, his recognitions of good and evil, and the problems of living. New intuitions, feelings, and hereditary tendencies appear, self-consciousness develops; he finds himself in a new situation, in possession of a new power which stimulates him to study, to think, and to work; to create, to express, and later to accumulate. An originality characterizes this creative activity before it is guided by the force of public opinion and individual experience. Later, because of imitation and the dread of ridicule, he does what he sees others do, and thinks what others think—he is conventional.

Pubescent children are not attractive, and are bound to give trouble to those having them in charge. Unfortunately they can not wrap themselves in a silken cocoon while they undergo the chrysalid process. "Boys who are not permitted to trouble anyone while they are young, are quite of the habit, when they cease to be boys, of giving a great deal of trouble," says the father of Arthur Bonnicastle.

President Yoder took for examples of pubescent children such characters from literature rather than children of his own knowledge because they were so well characterized and were known to all. He gave a vivid picture of Harvey Chayne, the hero of Kipling's Captain Courageous, and his regeneration by hard work forced upon him. The story of Tom and Maggie Tulliver, in "Mill on the Floss," was used to illustrate a phase of early adolescence. "Tom Brown at Rugby," "Arthur Bonnicastle," and the "Guardian Angel" furnished examples of other phases of adolescence.

Children of this age have a keen sense of justice and know when they are honestly treated. Be as careful in your intercourse with such people as with the most particular adult; keep engagements, speak frankly and

act courteously. Show the boy that you see the man in him.

Individual experience, autobiographies of great men, and juvenile characters in standard literature emphasize the importance of right management during early adolescence. A moral impetus should be given which will carry the individual into the years of discretion; social impulses should be guided, not repressed; judicious sympathy, recognition of possibilities, indulgence in boyish plans, and commendation for work well done; the fear of God and reverence for what is sacred, respect for parents, teachers and institutions; plenty of out-door exercise, the reading of good books, and association with boys and girls of the same age will make this trying age a preparation for strong, vigorous manhood, and pure, healthy womanhood.

Dr. Louis Sherman Davis, Indiana University, in discussion, emphasized the fact that we should transmute the activity of the child and not suppress it. He said it was a great problem what to do with our boys during the green-apple stage, but that as the boys and girls grew out of that stage they would begin to assume a personality, and then they would have an ardent desire to do something which would be independent of all authority. He would give scope in the high school to the things that develop the highest ideal.

The audience was then favored with a solo, "O Satutaris Hostia," by Mrs. Belle McLeod Smith, Delphi, which was well received. She was accompanied on violin by Miss Beradine Smith, of Indianapolis.

Prof. Chas. E. Emerich, Principal Indianapolis Training School, addressed the audience on "Manual Training." He said in part:

Manual training is not intended as a preparation for some special line of industrial work, and a manual training school is, therefore, not a trade school. Manual training is not proposed on account of its possible effects upon so-called practical pursuits, or on account of its trade or industrial value; such value it has, without question, and children who have had the advantage of good manual training instruction will be better fitted for practical occupations than those whose training was one-sidedly formal. Training in manual skill, satisfying of material needs, preparation for life, are certainly excluded. But these results, while natural, are here considered merely as incidental products. They are not the first and foremost aims of the movement for recognition of manual training in schools. Its aim is purely educational; it is valued as a culture-element.

Some children are distinctively manual and non-literary; others literary and non-mathematical, etc. Manual training discloses a child's personal bent. Thus he is assisted in making a choice of occupation.

Manual training represents the objective, experimental and creative or constructive side of all school work. The making of a thing even by way of crude imitation, intensifies its conceptual recognition. It is sense training. It exercises all senses, and constitutes each one into a helper to all others; it trains eye and hand, and makes both mutually subservient.

Manual training being a recognition of the play instinct, the instinct for action, which is so powerful and irrepressible in children, is also exercise; it sets free those natural and valuable impulses which induce the child to try his strength and skill in a large number of various activities. It helps toward a completer self-projection of the child upon his environment; towards his more perfect self-realization.

Manual work will awaken and train powers which will otherwise remain dormant and untrained. It will teach the child to observe, investigate, test, compare and invent. It demands and exercises the self-activity of the child, and thus makes a proper choice of calling possible, for only by self-activity is the individuality of the pupil developed, and it alone teaches the pupil to know his powers and inclinations.

As Prof. W. E. Stone, Purdue University, was unable to be present, Prof. T. J. Charlton, Superintendent Reform School for Boys, led in the discussion of this paper. He said:

Mr. Emerich, in his paper on Manual Training, has treated it largely as an educational factor. Looked at in that light it is valuable. Most of the advocates of "Manual Training" take the same ground, but I do not altogether agree with this. I believe that it has a two-fold purpose. I would emphasize the other and most practical branch in its relation to the trades. I have had ten years' experience teaching manual training to delinquent boys, and I have watched its influence on the spirits of such boys. I have, in numerous instances, seen boys whose whole lives showed that they had no idea that they were worth anything. I have seen such boys change for the better because they found out that there was something good in them. I know that manual training does prepare boys to a certain extent for the trades, I care not what business he enters. I would teach manual training, because it gives them a wholesome respect for industrial life so that they enter on their study with avidity.

At the State Reform School, at Plainfield, manual training receives full attention. A "Sloyd School" for teaching wood-work is established there, and ninety-eight boys are

taught daily. In an iron shop thirty-two boys are taught. In this course the study extends not only to iron, but on to blacksmithing. So it is in other shops. It has greatly aided our work of reformation. If it has been so successful to delinquents, why not let it be tried with others. All manual training steps, as in everything else, should be from the known to the unknown. A Sloyd course is necessary to be practical. It teaches every mechanical principle; children like it. They don't like to work on what is to be thrown away; they don't like to see the works of their hands destroyed. In this respect they are like older people. Stephen Girard hired a man, but when he had carried a pile of bricks from one place to another, he was ordered to take them back where he first found them. This he refused to do. He needed work, but he wanted it to be "work for purpose."

Undoubtedly what we would have prominent in the nation's like must be put into its schools. A naval officer who was with Dewey at Manila, speaking of American superiority at target practice, said in this city two weeks ago, that he would put a shooting gallery in every public school. He realized that as the teacher, so the children, and as the children so the State. If we recognize, as we have done, that the State shall teach law and medicine, we claim that it should likewise teach what will turn the minds of the children to the industries. In this way we can become a "Nation of Producers."

Supt. J. W. Hamilton, Monticello, continuing the discussion, said:

Manual training comes in response to the demands of the law of adaptation. A quarter of a century ago, or a little longer, life was largely rural in its character. Then the boy worked upon the farm, taxing his energies and powers, both physical and mental, to their fullest capacity to meet all the demands that such a life imposed upon him. When not on the farm he was serving his apprenticeship in the shop or office. Then the boy used his hands to execute what his head devised, in a thousand ways to which he is a stranger now.

The rural condition of former days has largely disappeared. On the farm, machinery has taken the place of hand labor, and there is no longer that adaptation of means to end which called for such complete co-ordination of mind and hand. The sewing machine, the dressmaker, and the canned goods establishments have come into the home to rest the girls, and the net product is an immense surplus of arrested development.

Added to this, there has been an exodus from the country to the city and town, until now the great problem which education is called upon to solve, is what shall be done

to equip the boys and girls for the great competitive existence into which they are called.

As a first step, the value of kindergarten work should be more generally recognized, and school boards made to see the wisdom of providing kindergarten schools in every city, and in every town where enough children can be found to support them.

In the lower grades, more importance should be attached to the study of form, and a great deal more done in the way of clay modeling, paper cutting, Sloyd, and other kinds of constructive work.

In the grammar grades and high schools something should be done towards familiarizing the young people with the use of tools.

Manual training has its legitimate place in the scheme of education. It should not crowd out the recognized culture and disciplinary studies is true; but it should not be crowded out by them, is equally true. If there must be a readjustment of the course of study, that our public schools may afford opportunities for determining and developing all the latent resources of young manhood and young womanhood, it can not be done too soon.

After this discussion the meeting adjourned to meet this evening to hear the annual address by the Hon. John L. Griffiths.

WEDNESDAY EVENING, Dec. 27.

After music, "Sunset," by Association Quartette, the Hon. John L. Griffiths, Indianapolis, delivered the annual address. His theme, developed in a clear, broad, masterly style, characteristic of the speaker, was "Rudyard Kipling." The following is an abstract of the address:

Among the many delightful things which have come to those who live in the nineteenth century, a century full of poetry and chivalry and romance, are the works of Rudyard Kipling. He has collected his tales from all places and all sorts of people—from priest and carver and carpenter, from nameless men on steamers and trains, from women spinning outside the cottages in the twilight, from officers and gentlemen now dead and buried; and a few, but these are the very best, his father gave him. It has been suggested that we find in Kipling a complete answer to the theory that has been advanced to prove that Shakespeare could not have written the plays which bear his name, since he was not learned in law or medicine or theology, and had never sailed the seas; for it is evident, is it not, as one writer remarks, that Kipling must have studied long and ardently at all the best schools and universities in the world, or how

could he have acquired his acquaintance with zoology, as shown in the "Jungle Book;" with geology, as set forth in the "Flag of England;" with archaeology, as exhibited in the story of "Ung;" and with botany, as expressed in his exquisite poem, "Flowers." He must have served a long apprenticeship on the sea, and gratified his passion for that element by taking service in the Greek galley, and afterward in that of the Viking. He must the have occupied a position on the following vessels in succession: A Chinese pig boat, a Bilboa tramp, a New England fishing smack, a British man-of-war, and an American liner. He must have spent a few years of complete rest in the solitude of the jungle, and familiarized himself with the manners and customs of birds and beasts and reptiles. He must have had a large number of appointments in the Indian civil service, and served for a considerable period in the army, and had at least one engagement in the Soudan. He must have passed a number of years in disguise among the natives to become conversant with their habits of thought and ways of living, and must have had a studio of his own, and slumped in the White Chapel district. In the case of Kipling, as of Shakespeare, it is the divine gift of imagination that has quickened and deepened his sympathies with men of every class and race, and given him free entrance to their hearts.

His love for and sympathy with children is one of the most beautiful traits of his character. His understanding of their ways and feelings emphasize the simplicity and genuineness of his nature. He has depicted almost every phase of child life, and depicted it so charmingly that we almost regret that we can not blot out the intervening years and dwell again in the golden age and fall asleep to the music of the "Just So Stories."

The spirit of simple and heartfelt reverence characterize much that Kipling has written and is especially noticeable in some of his poems. His religion is never sentimental nor mawkish. It does not concern itself with doubts and questionings; is not interested in the quibbles of creeds; is wholly free from affectation or sham, and is at all times strong, consistent and manly.

If Kipling had written "Crossing the Bar," he would have said, triumphantly, "I know that I will meet my Pilot face to face." He has the passionate faith of the fanatic; his enthusiasm, too, but tempered with a judgment that sees things in their proper relations and not in an atmosphere of phantasy or mysticism. It is not surprising then, that amid the pomp and show and circumstances of the Queen's jubilee, when others were singing of power and dominion as if they were the works of man's hands, that the "Recessional" should have been written, and that its lofty note should have sounded high

above the tumult and the clamor, above all the little attempts at self-glorification, recalling men to a sense of their own insignificance and helplessness, if they were unmindful of Him who holds in the hollow of His hand the destiny of nations.

His longer tales are full of vivid coloring, dramatic situation, marvelous bits of description, rare portrayals of unique incident, and keen, discriminating criticism on interesting phases of life. They sparkle with wit and are tremulous with pathos. They furnish us with new points of view on old themes. They are clever in phrasing and abound in passages of rare beauty and power, but they do not treat of the development of character and of the play and interplay of the titanic forces of good and evil which contend for the possession of and dominion over the human soul.

Kipling has awakened a great people to a sense of its duties and responsibilities. He first brought home to Englishmen something like an adequate conception of what their Indian empire means. The dominant note of his work is patriotic, and it is a passionate, moral, imperial patriotism. He sings the songs of the cities from Bombay to Halifax. He sings of something beyond material needs and interests, however, for he has a fine conception of the moral obligation which rests upon the rulers of men. He has no patience with the idea that the operations of Threadneedle Street are more important than those in the Soudan; he has not the slightest doubt that it is England's mission to civilize mankind, and he is confident that she has the ability to do so. In these days, when, in our country, we are confronted with the larger duties and wider responsibilities, when we are reaching east and west and around the world, Kipling's serene faith in the Anglo-Saxon is at once a reassurance and an inspiration. He knows that quickly following the sword, come schools, and colleges, and churches, workshops and factories—all the civilizing and vitalizing forces of modern civilization.

The Association Quartette—L. M. Tilson, W. J. Stabler, W. E. M. Browne, W. H. Lebo—favored the audience with "Love's Old Sweet Song," and in response to an encore gave "Thou Art My Own Love." After which the meeting adjourned.

THURSDAY FORENOON, Dec. 28.

After the invocation by W. A. Bell, President of Antioch College, Ohio, the President read congratulatory telegrams from Kentucky, Kansas and Illinois. He was instructed to return the greetings of the association and to send greetings to all State educational conventions now in session.

Supt. T. A. Mott, Richmond, introduced a resolution to create "The Indiana Council of Education:"

Be it resolved, That the State Teachers' Association of Indiana hereby organizes and establishes The Indiana Council of Education. The object of said Council shall be the provision of expert consideration of the problems of education and school administration which may be referred to it by this association or formulated by said Council.

Said Council of Education shall be composed of twenty-five (25) members, who shall be appointed as follows: The President of this association shall at this meeting appoint one member from each congressional district, which persons thus appointed shall meet and select from the membership of this association twelve additional members.

Immediately after appointment said Council shall organize and divide its members into three classes, consisting respectively of eight, eight and nine persons. The membership of the persons of the first class shall expire in one year, of those of the second class in two years, and of those of the third class in three years. And thereafter the terms of membership of all persons shall be three years, provided that any person who is absent from two consecutive regular meetings shall forfeit his membership, and the vacancy thereby created shall be filled by said Council. And annually thereafter the President of this association shall fill by appointment any vacancy created by the expiration of the membership of a person selected as the representative of any congressional district. All other vacancies shall be filled by said Council.

Said Council shall from time to time make to the association such reports of its investigations and work as shall in its judgment subserve the educational interests of the State.

Said Council shall have power to make rules and regulations for its own government, provided they are not in conflict with the provisions of this resolution.

The adoption of this resolution is hereby moved.

Signed—T. A. Mott, W. L. Bryan, R. A. Ogg, Adelaide Baylor, W. H. Senour, D. K. Goss, W. R. Snyder, Howard Sandison, W. A. Millis, John Carr, Edward Ayres.

The resolution was adopted.

The President appointed the following as members of the "Council of Education:"

1. W. A. Hester, Evansville.
2. W. L. Bryan, Bloomington, Chairman.
3. Geo. R. Wilson, Jasper.
4. Geo. A. Roberts, Greensburg.
5. Howard Sandison, Terre Haute.
6. T. A. Mott, Richmond.
7. Nebraska Cropsey, Indianapolis.

8. W. R. Snyder, Muncie.
9. W. A. Mills, Attica.
10. Mrs. Emma Mont McRae, Lafayette.
11. Adelaide Baylor, Wabash.
12. J. N. Study, Ft. Wayne.
13. Noble Harter, Warsaw.

Supt. D. K. Goss, Indianapolis, addressed the audience on "Scholastic Phase of Education." The following is an abstract of his address:

The topic assigned for this paper must have some limitation if any profit is to be had from its discussion. I have therefore construed it to mean a consideration of the academic attainments of the teachers of the common, elementary public schools of our country, and especially of our State.

In New England, fewer than one-half of the 30,000 public school teachers have had training in high schools, academies or normal schools of any kind, and New England claims to be the head of American educational affairs. The majority of the schools of Indiana are taught by men and women who are neither graduates of a commissioned high school or of an academy of equal rank, nor of a normal school of any kind.

The common experience of the men and women of this association will regard as reasonable these estimates: That not more than one active teacher in four in the State is a graduate of a commissioned high school, or of a normal school requiring academic attainments for graduation; that not more than one active teacher in four is teaching upon better than a twelve-month's license; that the average length of service of the Indiana teacher is about four years; that the average number of days taught is not much above 120 in the year, and that the average yearly compensation of the teacher does not exceed \$240. If this is a true state of facts, and we know that it is substantially true, the profession or occupation of school teaching in Indiana has this aspect: Pupils coming from the district schools are turned immediately back into these schools as teachers with little or no further scholarship or training than the elementary school itself, taught by an untrained teacher, can furnish. This teacher "keeps" the school one, two, three or four years, till law, medicine, business or matrimony furnishes a social and economic escape.

After giving the origin and history of the world-movement of reform in the elementary school, Professor Goss made the plea, that all normal schools, and especially those supported by the State, should demand graduation from commissioned high schools or an equivalent academic attainment revealed by examination, as an entrance requirement. I would require this in the interest of the profession, in the interest of

normal schools themselves, that are borne down by the load of ill-prepared students, and in the interest of the high schools that are now in almost every community offering this academic work, and lastly, in the interest of the State that should not duplicate, and, in a measure, discredit the work of its high schools, maintaining special high schools in connection with its professional schools.

He said further that the time is near at hand when no person should be allowed to take upon himself the work of a teacher without previous professional training. Just as little should he be allowed to assume the functions of a teacher with little or no more scholarship than some of the children he presumes to teach.

Our teachers need more training, and they need it badly, but they need of all things scholarship, culture, life, and they need them more abundantly.

Supt. Edwin S. Monroe, Mt. Vernon, who was to lead in discussion, having been quarantined on account of smallpox, was unable to be present.

Supt. W. H. Sanders, Rensselaer, discussed briefly the important points brought out in Professor Goss's paper, and expressed himself as heartily in accord with the sentiment it contained. "It is absolutely necessary," he said, "to pay the teachers better salaries in order to retain the really competent ones in the schools. I have found it very difficult to keep some of the best instructors under my charge on account of the extremely small payment allowed them."

Supt. B. F. Moore, Marion, offered the following resolution:

Be it resolved, That the question of scholastic and professional standards and requirements for teaching in the public elementary and high schools of Indiana be respectfully referred to the newly created "State Council of Education."

Carried.

Supt. J. W. Carr, Anderson, read a paper on "How Can We Interest the People and Bring About a More Thorough and Systematic and Comprehensive Study of the History of Indiana?" He said in part:

Indiana has played an important part in the history of the Republic. Her statesmen, lawyers, diplomats, soldiers, orators, poets, novelists, historians, educators, artists, patriots, scholars, physicians, financiers, scientists, clergymen and business men have added luster to the name "Hoosier." The

wealth, progress, comforts, intelligence, morality, virtue and patriotism of her people are equalled by few. The honorable part taken by Indiana in the great Civil War, her rapid growth in wealth, population and material prosperity, the names of her illustrious dead and distinguished living, all attest the material, intellectual and moral greatness of the commonwealth. While the history of the State is brief in point of time, it is rich, varied and honorable.

That we have a history of which we should be proud, is unquestioned; that it should be familiar to us all we readily admit; that our people are not familiar with the history of the State is equally true. There are more people in Indiana familiar with the history of Greece and Rome than with that of their own State. The question then is, how can we, the members of this educational association, interest the people so that they will make a thorough, systematic and comprehensive study of the history of Indiana?

The most obvious answer is, We can teach the history of Indiana to the children under our care.

While but little, at present, in the way of formal instruction in State history can be accomplished in the schools, owing to the crowded condition of the program, yet several things may be done by means of special exercises in the public schools which will aid materially in arousing an interest in this subject. Indiana Day should be observed in all the schools throughout the State. This occasion should furnish an opportunity for the study of several topics of Indiana history. Pupils should be asked to investigate subjects, read up, if you please, and bring in a report. The public schools have long been observing the birthdays of celebrated statesmen and authors. Why not recognize some of Indiana's great men and women and have a Morton day? a Hendricks day? a Wallace, a Bolton, or a Riley? Again it seems to be particularly appropriate for us to decorate our school room walls with portraits of distinguished Indianians. The children would become familiar with the history of these persons and strive to emulate their virtues. Have pupils write on topics of local history. In every community pupils may write sketches of one or more of the following: Schools, churches, factories, railroads of the vicinity, bridges, mines, colleges, residences of noted people, the town hall, opera house, celebrated trials, noted gatherings, county fairs, quaint customs of the people, etc. Some communities of the State have places of special historical interest which should be studied by the children under the guidance of the teacher.

As citizens and individuals we can interest the people in the history of the State by suggesting books and magazines suitable for the local public or school library—

such books as Smith's History of Indiana, Dunn's Indiana, Woollen's Historical Sketches, Foulke's Life of Morton, and English's Conquest of the Northwest Territory. We may interest the local press in this subject in the communities in which we live. The editors are already doing more than any other class to interest and instruct the people in State history. By proper support and encouragement they will do much more.

If such an interest is to be aroused that will lead to a thorough, systematic and comprehensive study of this subject we must obtain the co-operation and active support of those individuals and of those volunteer and legally constituted bodies that direct and control the educational machinery of the State. We must appeal to the Indiana Historical Society, to the State Librarian, to the State Library Association, to the Reading Circle Boards, to the Superintendent of Public Instruction, and to the State Board of Education.

If Indiana history is to have a lasting place in our schools it must become a part of the school course. May we not with propriety ask our State Superintendent, when revising the course of study in history, to leave out part of the work in ancient history and give Indiana history a place? It seems hardly proper for our youths to know more about Pythagoras than about Daniel Kirkwood, more about Remeses II and Sargon than about Oliver P. Morton and Gen. Lew Wallace.

The State Board of Education may aid in this work by inserting questions occasionally on Indiana history in the lists for teachers' examinations. The adopted text in United States history should contain an Indiana supplement, setting forth briefly the chief facts of Indiana history, with references to standard works.

I have now set forth in brief outline some means that may be employed to interest the people in the history of the State. If you deem these suggestions worthy of consideration, I trust you will take such action, before the adjournment of this association, as you deem advisable to bring about a thorough, systematic and comprehensive study of the history of this great commonwealth.

Prof. C. W. Hodgkin, Richmond, leading in discussion, said:

During the last two generations the ideal of the nation versus that of the State has become so firmly rooted in the minds of the loyal people of the United States that our National History and our National Government have claimed the largest share of attention; indeed, local government, and especially local history, have been, so far as the public schools are concerned, almost entirely ignored. The doctrine of national supremacy taught by Webster and Chief Jus-

tice Marshal, and so vigorously emphasized by the results of the Civil War, has taken such firm hold on the public mind as to relegate far to the rear the doctrine of State supremacy, advocated by Calhoun and Hayne. And this is well, but the disrepute into which interest in State affairs has fallen has made it appear to the highly nationalized conscience that any large concern for State affairs is almost identical with national disloyalty. This, I believe, is not well.

There is being evolved here the most highly and perfectly organized nation that has yet appeared. The process of this evolution has been in harmony with the laws of development of the most highly organized living bodies, and there is no more disloyalty to the nation in knowing the history and true political functions of a State than there is disrespect and contempt manifested for the human body by the medical student who makes a minute study of the heart, or by the physician who specializes upon the treatment of the diseases of some particular organ or set of organs.

Aside from her relation to the Union, Indiana has, in common with most or all of her sisters, a history of her own, that if rightly studied will reveal the various elements of romantic and thrilling incident, of dashing enterprise, heroic self-sacrifice, plodding industry, wise and unwise philanthropy, and abundant material for the philosophic historian or the scientific sociologist. In what may be called the prehistoric period is material for the archaeologist, and in her colonial or territorial period we have all the interest of pioneer life, with the opportunity to study a number of rich historic centers, each of which, in the course of time contributed much to the welfare of the State as a whole.

Professor Hodgkin then proceeded to give the evolution of the State of Indiana, and urged that more attention be given to the study of the State by its people. He emphasized the agencies, suggested by Superintendent Carr, in distributing the historical knowledge, so far as it has been acquired.

Every county of the State, he said, ought to have its historical society, a part of whose work should be gathering, classifying and preserving of everything available for historic use. I should like to see the work pushed, without neglecting anything that can be used now, to give our young people a better, more thorough, more systematic and more comprehensive knowledge of Indiana history than they at present possess.

Supt. R. A. Ogg, continuing the discussion, expressed himself as thoroughly in sympathy with what had been said in regard to the teaching of the history of Indiana. He deplored the ignorance sometimes found as to the history of our own State. The people

should know, he said, what has been done in making history and what they are capable of doing. There has been a notion that Indiana held a low position among States. We must appeal to a sense of loyalty in children and make them feel glad that they are Hoosiers. The interest in the study of Indiana could be stimulated in many different ways—through the public press, institutes, associations and prize essays. A prize essay on "Good Roads" resulted in the building of several thousand miles of good roads.

Owing to a previous engagement, Prof. J. A. Woodburn, Bloomington, was unable to participate in the discussion or this subject.

In the general discussion which followed this paper, W. A. Bell, formerly editor of *The Indiana School Journal*, said:

I am interested in Indiana. When I came to the State I could not speak one word of English. (Laughter.) I hope to come back to Indiana to die. He emphasized the great importance of Indiana as a State and its high rank among other States of the Union. In its natural resources, he said, the State ranked about fifth or sixth, and that on account of its natural gas and its consequent large manufactories he felt certain that forthcoming statistics would place it even higher than this. The city of New York, he said, depended on Indiana for a great amount of limestone for some of her finer buildings.

J. M. Bloss, Muncie, George A. Dennison, Springfield, Mass., Miss Harriet Case, Muncie, confirmed what had been said of the State's resources, and emphasized the need of teaching Indiana history in the schools.

Wilbur Ryman, Muncie, said he believed that a historical library, where the history of the State was available at all times, would be a help.

Supt. R. A. Ogg, Kokomo, presented the following resolutions:

Resolved, (1) That we indorse the action of the Reading Circle Board in putting "The Young People's History of Indiana" on the list of books for the Young People's Reading Circle.

(2) That a judicious committee of men and women be appointed by the President of this association to consider and report upon the introduction of Indiana history and civics into the public schools, and to devise ways and means by which local and State historical materials may be collected and preserved.

(3) That the State Librarian be requested to co-operate with this committee in this work and that the State Librarian be made

a general clearing house for the material which may be secured for this purpose.

The motion for their adoption was carried.

President Glascock appointed the following committee on Indiana History and Historical Material:

Cyrus W. Hodgkin, Richmond, Chairman; J. A. Woodburn, Bloomington; W. E. Henry, Indianapolis; T. F. Moran, Lafayette; W. S. Almond, Delphi; Geo. R. Wilson, Jasper; Adelaide Baylor, Wabash; A. H. Yoder, Vincennes; J. W. Carr, Anderson; Wilbur Ryman, Muncie.

The Committee on Nominations presented the following names for the ensuing year, which were endorsed by the association:

President—R. I. Hamilton, Huntington.

Permanent Secretary and Treasurer—J. R. Hart, Lebanon.

Recording Secretary—Miss Lela Vaught, Martinsville.

Executive Committee—W. P. Hart, Chairman, Covington; E. S. Monroe, Mt. Vernon; C. A. Robinson, English; J. Z. A. McCaughan, Kokomo; J. S. Ragsdale, North Judson; John H. Bair, Terre Haute; R. A. Smith, Indianapolis; Geo. R. Wilson, Jasper, ex-officio.

Vice-Presidents—J. K. Beck, Bloomington; M. W. Deputy, Vernon; W. A. Fiske, Richmond; C. H. Drybread, Hartford City; Ethel N. Arnold, Attica; Lillian G. Berry, Monticello; H. E. Coe, Auburn.

The Committee on Resolutions made no report, as other reports embodied that upon which they would act.

The committee to fill vacancies on the Reading Circle Board reported the names of D. K. Goss, Indianapolis, and C. M. McDaniel, which met with the approval of the association.

The Auditing Committee of the Reading Circle Board will make their report for this year at the opening session next year.

The committee appointed to audit the books of the Permanent Secretary, reported that they had investigated his books and found them to be correct.

J. R. Hart, Permanent Secretary of the Association, read his report, which was accepted and ordered spread on minutes.

The following is the report:

TREASURER'S REPORT.

James R. Hart in account with the Indiana State Teachers' Association, as per the following itemized statement:

1899.		
Jan. 1.	Balance on hand	\$105 85
Dec. 28-29.	Received from members	585 50
"	Door receipts	7 40
"	Grand Hotel	175 00
Dec. 29.	By cash to Lebanon Patriot, printing, voucher 1.....	\$43 75
29.	To Emma B. Shealy, Rec. Sec., voucher 2	25 00
29.	To S. W. Convey, services as doorkeeper, voucher 3.....	6 00
29.	To E. H. Drake, exp. member Ex. Com., voucher 4.....	6 00
29.	To J. R. Huston, exp. member Ex. Com., voucher 5.....	6 00
29.	To E. P. Trueblood, exp. member Ex. Com., voucher 6.....	12 00
29.	To Robt. J. Ale, exp. member Ex. Com., voucher 7.....	12 50
29.	To W. R. Snyder, exp. member Ex. Com., voucher 8.....	11 50
29.	To W. S. Almond, exp. member Ex. Com., voucher 9.....	13 25
29.	To Legislative Committee, exp. voucher 10.....	24 65
29.	Appropriated J. W. Carr, headquarters N. E. Association, voucher 11.....	50 00
29.	To Geo. R. Wilson, exp. Chm. Ex. Com., voucher 12.....	96 35
29.	To W. U. Tel. Co., voucher 13.....	1 55
29.	To Central Pass. Assn., services of Spec. Agt., voucher 14.....	17 00
29.	To F. H. Koshler, one day extra as Spec. Agt., voucher 15.....	6 00
29.	To J. A. Carnegie, services as Asst. Sec'y, voucher 16.....	6 00
29.	To Hattie Nealis, janitress at State House, voucher 17.....	5 00
29.	To C. M. McDaniel, Assistant Sec'y, voucher 18.....	6 00
29.	To D. H. Baldwin & Co., use of piano, voucher 19.....	3 00
29.	To Jas. R. Hart, postage and help with program and mailing, voucher 20.....	31 25
29.	To Sebastian Anderson, postmaster of Jasper, mailing 6,000 programs, voucher 21.....	39 84
29.	To Jas. R. Hart, salary, telegrams, exchange, express and expense of attending committee meeting, voucher 22.....	74 98
29.	To Baker & Thornton, use of 200 chairs and supplies, voucher 23.....	14 66
Jan. 1, 1900.	Balance on hand.....	361 78
Totals.....		\$873 85 \$873 85

Whole number enrolled, 1,037.

Number of railroad certificates presented, 538.
Respectfully submitted,

JAMES R. HART,
Secretary and Treasurer.

J. W. Carr, Director of the N. E. A., made an itemized report of the finances expended to maintain headquarters at the National Educational Association at Los Angeles last summer, which was accepted.

Supt. Carr then urged that we send a larger delegation to the N. E. A. next summer. We have not the standing in the country, he said, that we should have. We have not one-fifth of the active members of the other States around us.

On motion of J. W. Carr, the Association appropriated \$50 to be expended in the interest of the National Teachers' Association to be held next year.

The Committee on Legislation reported that they drafted no bills for presentation to the Legislature, since they were convinced that bills would be introduced, some of which were then already drafted to cover needs agreed upon by the committee.

There being no further business, the President declared the Association adjourned.

HIGH SCHOOL SECTION.

The annual session of the High School Section of the State Teachers' Association was held December 28, 1899, in the House of Representatives at the State House, Mr. Robert Spear presiding.

N. C. Johnson, Lena M. Foster and J. A. Carnegie were appointed nominating committee for the new officers.

The first paper, "Self-Government in the High School," was read by Hamlet Allen. He emphasized the idea that not only is the plan of self-government a possible one, but it is one which is being successfully used in several of our high schools. Perfect liberty will bring perfect government.

The discussion was given by Alva O. Neal, of Franklin. He said the pupil will do what you expect him to do. The world wants more men who will work when the boss is away.

Miss Adelaide Baylor, Wabash, read a paper on "Effects of Athletics, School Publications, Theatricals, Oratoricals, Etc., on the High School Work and Spirit." She believes that they develop physical strength, interest the public in the schools, bring about an exchange of ideas that is broadening, instill business principles, give literary power.

Dr. Stanley Coulter gave a talk on "The Most Profitable Way for a High School Teacher to Spend His Vacation." He believes that the teacher should use any plan which will broaden his ideas and enlarge his life, yet in touch with the world outside of school.

The officers appointed for next year are Chas. S. Meek, Terre Haute, President;

Harriott C. Palmer, Franklin, Secretary; Russel K. Bedgood, Lafayette, Chairman of Executive Committee.

The meeting adjourned.

ROBERT SPEAR, Evansville,

President.

MARTHA E. BROWN, Greenfield,

Secretary.

ENGLISH SECTION.

The English Section met in the House of Representatives December 29. The papers were interesting, and provoked much discussion. The program observed was as follows:

"Classics for the Grammar School," Edward Ayers, Lafayette.

"Teaching Composition in the High School," Margarette DeBruler, Indianapolis.

"Study of English in the Public Schools," E. S. Gardiner, Franklin.

"Products of the Study of Literature," Mrs. May Wright Sewall, Indianapolis.

Before adjournment the following officers were elected for ensuing year:

President—Edward Ayres, Lafayette.

Vice-President — Miss Augusta Mering, Richmond.

Secretary—Miss Edna Johnson, Indianapolis.

MATHEMATICAL SECTION.

The meeting was called to order at 2:00 o'clock by the President, G. C. Roberts, of Greensburg.

Mr. Hamlet Allen, of Washington, chairman of the committee appointed last year to propose a uniform course in arithmetic for the schools of the State, made a report which the section approved and adopted. It suggested:

1. There should be some arithmetic taught in high school.

2. By all means that arithmetic should be taught to the class after all of the algebra, geometry and trigonometry has been completed.

3. Hence, there should never be any arithmetic offered in the first year of the high school. It is almost an entire loss to the pupil who studies arithmetic the first year of high school.

4. When arithmetic is taught, then, the first thing offered should be a careful study of fundamentals of arithmetic, and the definitions and principles underlying them; then a good presentation of proofs for many things; then much drill on some applications, observing that solutions are carried on in a mathematical way, not single unit analyses.

5. The relation between the mathematics gotten in algebra, geometry and trigonometry to that gotten in arithmetic should be observed throughout the work.

Milton V. Gantz, Principal of the Noblesville High School, in a practical paper, gave "Some Suggestions on Teaching Algebra and Geometry."

Edgar C. Welborn, of the Anderson High School, on the subject of "Interpretative Devices in High School Mathematics," showed and explained many ingenious devices for interesting pupils in algebra and geometry. These devices are intended to illustrate the principles and explain the propositions, but not to demonstrate them.

Prof. Waldo's paper on "Mathematics and Progress" was able and inspiring, as his papers always are. He showed that calculus has given man the secret of the construction of the universe, and has made it possible for modern civilization to surpass that of the Greeks. The problems that have been solved by calculus are the problems of civilization—light, heat, power, construction.

The officers elected for next year are:

President — Samuel Wertz, Greensburg High School.

Vice-President—Prof. A. M. Kenyon, Purdue University.

Secretary, Amelia Waring Platter, Indianapolis High School.

Executive Committee—Prof. F. C. Higgins, State Normal School; W. F. Axtell, Washington High School; Miss Katherine Blynn, Fort Wayne High School.

MUSIC SECTION.

The Music Section met in the Senate Chamber, Friday, December 29, at 9 a. m. The President called the meeting to order, and after the reading of the minutes of the last meeting, the program was taken up, and the different subjects were quite freely discussed by the members present, and al-

though the meeting was not large the interest was quite good. The following officers were elected for the coming year:

President—J. S. Bergen, Lafayette.

Vice-President—J. T. Reese, Milton.

Secretary—J. M. Black, Washington.

Executive Committee—L. M. Tilson, Lebanon; W. E. M. Browne, New Castle; A. W. Mason, Columbus.

CHILD-STUDY SECTION.

The first session of the Child-Study Section was called to order at 9 a. m., by the President, Prof. Geo. W. Neet. The exercises printed on the program were given in order.

The second session was called to order at 2 p. m., by the President. The program was again carried out in full.

The election of officers resulted as follows:

President—Howard Sandison.

Vice-President—A. H. Yoder.

Secretary-Treasurer—A. A. Hughart.

Secretary—N. C. Johnson, Franklin.

PRIMARY SECTION.

The Primary Section met December 28, at 2 p. m., in Room 80 of the State House.

Two subjects were discussed: "How May the Child be Trained to Close Observation, Vivid Imagination and Logical Thinking in Primary Language Work," and "The Educational Value of Games."

Miss May Waldorff, of Tipton, and Miss Mattie Matthews, of Lebanon, read interesting papers on the first subject, and in the general discussion which followed, the entire thought seemed directed toward the cultivation of the imagination and the child's love of the dramatic.

This discussion led directly to a consideration of the second subject. Miss Myrtle Smyser of Indianapolis, set forth in a thoughtful way, the necessity for and history of games, their value to the physical, intellectual and moral life of the child, and the difficulties met by those who would introduce them into school life. A number of good games were described by Miss Smyser and others who took part in the general discussion. The discussion was closed by Prof. Howard Sandison who showed the games as

valuable, in that it cultivates individuality as set over against the training of the institutions.

The following officers were elected:

President—Miss Viola Strain, Whiting.

Secretary—Mrs. E. E. Olcott, Danville.

COUNTY SUPERINTENDENTS' SECTION.

The County Superintendents' Section met in the Supreme Court Room on Thursday.

Isaac Myer, Chairman, and C. F. McIntosh, Secretary.

Prof. Sandison, of the State Normal, and Dr. Dennis, of Richmond, discussed "How to Better the County Institute."

Professor Sandison emphasized the dissipation of energy that is often permitted at institutes. The attention of the teachers is too often frittered away upon addresses of outsiders who seek to interest the teachers in various subjects, worthy enough in their way possibly, but out of place at institutes. Meanwhile the paid instructors are being neglected. Furthermore, even when the regular instructors are not so interfered with, they are called upon to treat of too great a variety of subjects. One lecture devoted to one subject, a couple upon another, and so on, compose a program that is not conducive to much progress, for the attention is thus too divided.

The time is past when a man who can talk equally well upon numerous branches would be suitable for an institute instructor. He should be a specialist. He should put the teachers abreast of the latest movements in his specialty. Then too, he should aim to present not merely a general idea or a few striking things about his subject, but the cardinal points, the real significance, the essential things. He should show just how the subject is to be assigned to the pupils for study, how the lessons should be prepared by the teacher, how by the pupils, how the recitation is best conducted.

Bearing upon this matter of preparation and presentation of lessons came the paper of Professor D. W. Dennis, who suggested, from his experience as an institute instructor, that the forenoons of institutes be given to lectures by the instructors, and that the afternoons be given up to voluntary classes

upon assigned work in text-books, and held by the instructors, with teachers as pupils. His idea is, further, that it should be known beforehand what subjects would be so treated and what the text-books would be. Such work, Professor Dennis believes, should consist of five solid prepared recitations for each subject, and that this work should be of normal school or college grade and designed to start the teachers upon subjects above and beyond those needed for a license, intended rather to be conducive to greater breadth and culture.

Some of the classes started by Professor Dennis have developed into clubs for study during the rest of the year.

It would be interesting to learn what the teachers think of these criticisms and suggestions. If they believe them to be good their influence should be exerted in the proper quarters.

State Superintendent Jones spoke for instruction more prominently on higher subjects.

W. O. Baker, County Superintendent Morgan County, read a paper on "School Visitation."

Miss Mary Hyde, of New York, discussed "Grammar and Language in the First Eight Years." Discussion of this subject continued by County Superintendents Tapy, of Whitley, and McIntosh, of Owen County.

The "Minimum Training of Rural Teachers" was discussed by County Superintendent Hughart and others.

The first talk of Friday's session was by President John W. Cook, of Dekalb, Ill. Subject, "Teaching of Arithmetic."

"Problems of Truancy"—discussed by County Superintendents Brandyberry, McTurnan and Scott.

The program being crowded, the afternoon session was given to miscellaneous business, and the discussion of "Grading Rural Schools," Deputy State Supt. F. A. Cotton leading with a paper on this subject.

The next meeting of County Superintendents will occur next June, at Winona.

CLASSICAL SECTION.

At the meeting of the Classical Section, papers were read by Prof. James B. Percy of Anderson, Miss Alice E. Brown of Lafayette, and Miss Lydia Whitaker of Terre

Haute. All the papers were interesting and freely discussed. Officers were elected as follows:

President—Prof. James B. Percy, Anderson.

Vice-President—Miss Alice E. Brown, Lafayette.

Secretary and Treasurer—F. M. Spraker, Logansport.

READERS AND ELOCUTIONISTS.

The section of Readers and Elocutionists met in Room 70, State House. The questions open for discussion were of unusual interest, and were enthusiastically discussed by the members.

The old officers were re-elected for the ensuing year. The officers are:

President—T. J. McAvoy, Indianapolis.

Secretary and Treasurer—Bertha F. Wolfe, Jeffersonville.

TRUSTEES' ASSOCIATION.

The Indiana Trustees' Association was held in the Masonic Temple, December 27 and 28. The topics discussed were "Schools," "Roads and Ditches," and "Care of Poor."

The following officers were elected:

President—B. F. Sherrick, Westfield.

Vice-President—J. D. Reed, South Bend.

Secretary—Thomas Nugent, Elkhart.

Treasurer—George Shreeves, Anderson.

Executive Committee—B. M. Morgan, Marion; Arthur Pershing, Delaware; E. M. Chaplin, Kosciusko, and John W. Cronk, Rush.

Legislative Committee—T. E. Bradshaw, Boone; T. L. Kent, White; B. A. Comstock, Huntington; Ezra Dodge, Steuben; J. J. Babcock, Kosciusko; John Stiltz, Vanderburg; A. Carnahan, Daviess; J. T. Collins, Orange; J. W. Silver, Jennings; H. M. Griswold, Vigo; G. W. Looney, Rush; H. B. Makepeace, Marion; G. W. Shreeves, Madison.

THE LIBRARY ASSOCIATION.

The meeting of the State Library Association, held in the State House, was attended by representatives from the most important libraries in the State.

The officers elected for ensuing year:

President — Miss Helen Tracy Guld, Bloomington.

Vice-President—Mr. A. Cunningham, Terre Haute.

Secretary—W. E. Henry, Indianapolis.

Treasurer—Miss E. A. Fatout, Anderson.

Mr. Henry was made the chairman of a committee on legislation to consider the advisability of recommending the revision and systematization of the library laws of the State.

The meeting was adjourned until next October.

COLLEGE ASSOCIATION.

The members of the Indiana College Association met in the Century club-rooms, Denison Hotel, December 26 and 27. The program as outlined was carried out. The committee appointed to report on the idea of merging the College into the general association, reported favorably on the plan.

Officers for the coming year:

President—W. P. Kane, Wabash.

Vice-President—O. L. Kelso, State Normal.

Treasurer—W. P. Rogers, Indiana University.

Secretary—Andrew Stephenson, DePauw.

ACADEMY OF SCIENCE.

The annual meeting of the Academy of Science was held in the Agricultural Rooms of the State House yesterday. The following papers presented were of unusual interest to those present:

"Degeneration Illustrated by the Eyes of the Cave Fishes," Dr. C. H. Eigenmann, Indiana University.

"The Florida Gopher," Dr. W. B. Fletcher, Indianapolis.

"A New Pathogenic Yeast," Dr. R. Lyons, Indiana University.

"Sanitation and the Spread of Disease by Insects," Prof. S. Burrage, Purdue University.

"Street Paving," Prof. S. Burrage.

Prof. W. A. Noyes, Rose Polytechnic, read a paper upon the synthesis of a compound from which it is hoped that camphor may be produced.

The election of officers resulted as follows:

President—D. W. Dennis, Richmond.

Vice-President—M. B. Thomas, Crawfordsville.

Secretary—John S. Wright, Indianapolis.

Assistant Secretary—E. A. Schultze, Fort Wayne.

Treasurer—J. F. Scovell, Terre Haute.

Executive Committee — C. A. Waldo, Thomas Gray, Stanley Coulter, Amos W. Butler, W. A. Noyes, J. C. Arthur, J. L.

Campbell, O. P. Hay, C. H. Elgenmann, T. C. Mendenhall, John C. Branner, J. P. D. John, John M. Coulter and David S. Jordan.

The society elected as fellows the following: J. P. Naylor, DePauw; W. J. Golden, Purdue; J. R. Slonaker, Indiana University; Donaldson Bodine, Wabash, and Glen Culbertson, Hanover.

SCHOOL HYGIENE—THE RELATION OF GERM LIFE TO ANIMAL AND VEGETABLE LIFE AND SANITATION.

W. H. FOREMAN, SUPERINTENDENT PETERSBURG SCHOOLS.

The demonstration of the existence, presence and infectious power of unicellular micro-organisms, or, as they are popularly called, bacteria or germs, has revealed new and vitalizing truth to the science of hygiene, with reference to regulation of bodily regimen, to the betterment of sanitary conditions and to disinfection. The existence of germ life has been known to scientists for more than 200 years. The germ theory of disease has been advocated for more than 100 years. But it is within the last fifteen years that our knowledge concerning the physiology, methods of cultivation and differentiation of bacteria has been acquired. A few years ago the existence of germ life was not generally believed, and the intimate relation of this germ life as the causation of disease was disbelieved.

It is a well-known fact that sweet cider allowed to stand exposed to the air undergoes a process of "working," or alcoholic fermentation. This fermentation is due to the entrance from the air into the cider of certain bacteria, which by their action and products, change the sugar in the cider into carbonic acid gas and alcohol, so that the cider is changed from a harmless into an intoxicating substance. In a short time fermentation ceases, showing that the germs which have pro-

duced the change have themselves succumbed to their own products. This "hard cider" on standing for a short time undergoes another fermentation, known as acetic fermentation, in which alcohol is changed to acetic acid or vinegar. This is due to the presence of another variety of bacteria which finds in the "hard cider" a suitable media for growth and the production of its ferments. This fermentation is also of short duration, but the product is such that it does not furnish a media for other germs, and so the vinegar becomes stable. The souring of milk, or lactic fermentation, in which the lactose or sugar of milk is changed to lactic acid, precipitating the proteid substances of the milk, is due to the presence of bacteria. Milk heated to a temperature below the boiling and canned in sterilized air-tight cans does not sour. Tartaric fermentation in the souring of fruits; beer fermentation in the souring of grain, are facts well known.

It is a well-known fact that fruits and vegetables heated to the boiling point and canned in sterilized air-tight cans, will not undergo fermentation or decomposition so long as they remain in this condition. This is familiar to every housewife, yet probably very few have ever asked the reason or thought the reason why. What

is true of fruits and vegetables is also true of all animal and vegetable life. We say exposure to air and moisture cause decay, yet it is possible and an actual fact that both animal and vegetable life exposed only to sterilized air (air thoroughly heated in order to destroy all germ life) do not decay. Decomposition, like fermentation, is the result of germ life. In other words, germ life is the causative factor in fermentation and decomposition.

Suppose decomposition should cease, nature would soon be clogged with her own products, so that life could no longer exist. Likewise animal and vegetable life in the process of decomposition give off carbonic acid gas and ammonia compounds which are essential to the life of plants; without them the plant must die. Without the plant the animal could not exist. So that the presence and action of this vast microscopic germ life is vitally essential to the life of man. This new world of fact and beauty which the microscope reveals to us is but another illustration of the Divine Order of the Universe.

Our drinking water holds in solution or suspension much of the organic matter which comes from the waste, filth or decay of animal and vegetable life and which if taken into our systems would act as a poison, for some of the products of decomposition are injurious. The bacteria attack this organic matter and change it into such harmless gasses as carbonic acid gas and ammonia, thus purifying the water and making it fit for use.

The air is full of the organic exhalations of animals and plants, which would act as irritants to the delicate mucous membranes of the animal or as poisons to its system. Much of these materials are changed to harmless gasses by the action of bacteria, thus purifying the air and making it fit for breathing.

Bacteriologists have variously classified bacteria, but there is as yet no strictly exclusive scientific classification. The classification to which we will make reference in these articles is that of non-pathogenic and pathogenic. Pathogenic bacteria are those which are the exciting cause of disease. Non-pathogenic are those which do not excite disease, most of which are harmless and many vitally essential to life.

Many varieties of each have been studied and named by bacteriologists. It is, however, with pathogenic bacteria that we are directly concerned, for these are the exciting cause of disease. I do not mean to say that the presence of these bacteria necessarily means disease. The specific bacteria may be present with or without the disease, or some may contract the disease while others equally exposed may be unaffected. Disease is the result of a number of factors, of which external conditions form one, the condition of the body another, and the presence of bacteria a third. If external conditions are unsanitary, and if vitality be low, the presence of bacteria may provoke abnormal action of the body cells, and disease is the result.

Prevention of disease involves something more than destroying bacteria, although this is of the highest importance. Sanitary hygiene is concerned in taking measures to establish proper external conditions or surroundings, proper regulated regimen with reference to the body, so that the direct or exciting cause of the disease (the pathogenic bacteria and their toxins) if present may be noneffective, or if the disease is contracted the vitality of the body may be able to quickly overcome the poison. It is true that the virulence of some germs is so great that the best hygienic surroundings and the highest

degree of physical vigor may be non-effective in preventing the contraction of the disease, yet the two former conditions will surely mitigate its severity. Should the disease be contracted, then in order to further protect others who have been or may be equally exposed, it is necessary to establish measures toward the destruction of the specific bacteria which are the exciting cause. This involves the principles of disinfection, which I will discuss in another paper.

According to the germ theory of disease, all contagious and infectious diseases have as their direct or exciting cause pathogenic unicellular micro-organisms (bacteria) and their toxins. It recognizes two causes of disease: (1) Predisposing causes or conditions, which are induced by a lack of sanitary measures with reference to the body and its surroundings; (2) an exciting cause—the bacteria and their toxins.

The natural protectors of the body are its cells, tissues and various fluids. When these cells, tissues and fluids perform their normal functions, the body is said to be in a state of health. At this time the body has its highest power of resistance against the exciting cause of disease. When, however, these natural protectors fail to perform their normal function by reason of some undue stimulus or lack of proper stimulus, the body is said to be diseased or predisposed to disease. At this time and under these conditions the body has less vitality and necessarily a lower degree of resistance, being exposed, to a greater or less degree, to the exciting cause of disease—the pathogenic bacteria and their toxins.

By experimenting with those contagious and infectious diseases common to the lower animals and man, Koch has proven beyond any reasonable doubt that a spe-

cific contagious or infectious disease has as its exciting cause a specific germ. His method of experiment is as follows: (1) The germ is found in the tissue or secretions of the animal suffering from or dead with the disease; (2) the germ is cultivated outside the body on artificial media; (3) the germ from this pure artificial culture is introduced into the body of a healthy animal; (4) the same disease is produced and the same germ is found in the animal so inoculated.

As a further proof I might say that I have been informed by a friend of mine who has recently returned from the Klondike, that colds and catarrhs are unknown there. He informs me that any amount of exposure will not induce a cold, also that he was much troubled with nasal catarrh while here, but that residence in the Klondike has entirely cured him. Everyone knows of the universality of catarrhs in this climate, and that the slightest exposure will induce a cold. I can only explain these facts by the conclusion that the climatic conditions and the excessive cold of the Klondike is unfavorable to the existence of the germs of colds and catarrhs.

It is known that each contagious disease has its period of incubation, duration and decline. The cause of the decline and the theory of immunity from the disease has led to much discussion. The cause of decline is considered to be a peculiar physiological resisting power of the body cells, due to the multiplication and action of the white blood corpuscles and to the presence in the serum of the blood of an anti-toxin secretion, both being induced by the presence of the germs and their toxins. Others consider that the toxins produced by the germ finally destroy it and thus put an end to the disease. By immunity is

meant a peculiar physiological resisting power of the body cells, induced by acclimatization, from inoculation with diluted sterilized virulent cultures, from inoculation of an anti-toxin, or from having the disease itself.

An individual acclimated to southern climes is not so susceptible to yellow fever, but highly susceptible to tuberculosis; while an individual acclimated to northern climes is highly susceptible to yellow fever, but not so susceptible to tuberculosis. The immunity against yellow fever was well illustrated by the colored soldiers in the late Spanish-American war, while the susceptibility to tuberculosis is well illustrated by the great mortality yearly in this country of the same race. One very important anti-toxin is coming

into general use to-day—the anti-toxin of diphtheria. Inoculation with culture is illustrated in the vaccination against smallpox with the virus from cow-pox. Everyone is familiar with the fact that having the disease gives immunity against future attacks.

The science of hygiene is a composite one, and I have attempted in this paper to point out briefly how intimately and vitally it is related to the science of bacteriology and how essential it is in order to understand the principles of hygienic measures to know something of the vital relation existing between germ life and animal and vegetable life. In my next paper I will discuss contagious school diseases.

THE TOWNSHIP INSTITUTE.

SIXTH MEETING.

HOW TO TEACH READING IN THE PUBLIC SCHOOLS.

OUTLINE.

I. Literary Interpretation.

- (a) Show that the significant changes in rhythm are due to emotional changes. See pp. 240 to 243.
- (b) Criticise the author's analysis. Pp. 248 to 254.
- (c) In the remaining time of the institute it would be well to discuss the analysis of Horatius. Pp. 277 to 284.

COMMENT.

The author states that the object of this chapter is to "assist" the teacher "to a deeper insight into literature, and hence to become a better reader and teacher of reading." Accordingly, it would seem that that which will give a deep "insight into literature" to the greatest extent is in order in this discussion.

Poetic literature is the highest one of the fine arts, and is a creation of the love for the beautiful. Love is the main-spring of all human action. Every human activity can be traced in its ultimate analysis to love for somebody or something. Love is an active feeling and is creative. It always seeks to create that which is loved. Thus the philanthropist seeks, because of his love, to create an ideal condition, a better condition of humanity, which he loves. And thus it always is with love. Therefore, the love for the beautiful is the source of the fine arts, of which poetic literature is the highest. Thus poetic literature is the concrete embodiment of the beautiful. The beautiful is always characterized by ideality, universality and harmony. But literature treats of human life, and since it must be beautiful, it

treats of idealized, universal, harmonious human life. One element of harmony is unity, or internal adaptation. Thus poetic literature must possess unity both in the thought and feeling embodied and in the form of the embodiment—the language. But bare unity is monotony, and monotony is not harmonious. So while there must be unity in both the thought and feeling embodied and in the language, there must also be diversity. The embodiment, the language, is determined by the thought and feeling to be expressed, and hence must have variety in unity in the form adequately to set forth the variety and unity of the content. And this is where rhythm comes in; for rhythm in its essential nature is “a thing itself, the departure from this thing, and a return to it again.” Thus significant changes in rhythm are always to set forth and harmonize with the important changes in the thought and feeling to be expressed. The thought and feeling determine the rhythm.

In the analysis of “The Revenge,” the author has gone through the selection stanza by stanza, making suggestions as to the thought, feeling and rhythm. These suggestions are, no doubt, valuable, but to me it does not seem that the most important thing in the poem is brought out. But one point, so far as I am able to see, is emphasized, and that is emphasized in such a way as to make it difficult to get help from it. The point emphasized is the adaptation of the language to the thought and feeling. And this is attempted without any very definite analysis of the thought.

A study of the essential nature of literature would show that a literary interpretation of the selection ought to reveal (1) the idea that makes the selection a work

of art—the internal adaptation or unity—the theme; (2) the adaptation of the type used to set forth the theme, and (3) the adaptation of the language used to the theme and type to the end of harmony.

Anything that would at all leave with the minds of teachers the idea that scattering through a selection with comment here and there as to form and content is real and helpful literary analysis is, in my opinion, to be avoided. Perhaps the greatest defect in teaching literature to-day is just this very thing. The teacher should so understand the nature of literature that in every lesson he can give the pupils a definite problem to work out. This way of teaching by scattering comment always fails in this very thing.

A study of poetic literature as the creation of the love for the beautiful should be a part of every teacher's equipment for teaching reading and literature. This is a question of psychology, but no teacher in literature who does not understand it can teach as well as the one who does understand it, other things equal.

GEO. W. NEET.

ADOLESCENCE IN LITERATURE.

GEO. W. NEET.

Literature always has for its theme some phase of human life, usually idealized, universal human life. Life problems of universal interest have always been treated most concretely and effectively in literature. There is no phase of human life of great interest to humanity which has not its literature. Accordingly, literature, treating of different phases of adolescence, is abundant.

The period of adolescence is characterized by vast and evident bodily changes,

and of these the changes in the brain are especially to be noticed. With these most persons are more or less familiar.

The psychological changes at the beginning of the adolescent period are no less remarkable than the physiological. "There is a great influx of new sensations. The brain, aroused by these new stimuli, increases its activity. The psychic concomitant of this increased cerebral activity is manifested in a variety of ways. The adolescent mind is filled with hopes, dreams, tempestuous passions, and new ideas. Social and ethical impulses become dominant; egoism often gives place to altruism. Political or religious zeal sometimes becomes the main-spring of action. The reasoning powers come into use. At a somewhat late period philosophic speculation frequently becomes almost a passion, and philosophic and religious doubts are common. The whole period of adolescence is often one of mental storm, and stress; and not unfrequently the cerebral overstrain results in insanity. This is the time for the most ardent interest in altruistic and philanthropic endeavor."

"There is at puberty a great increase in vitality and energy. This is manifested by rapid growth at this period, by the increased power of resisting disease, by the greater mental activity, and the like. The great evolution of energy and the corresponding influx of emotional vitality may objectify itself in many different ways. With some it may result merely in greater physical activity. With others it gives an impulse to intellectual work; with still others it leads to social and altruistic activity. A love affair, poetry, religious or political fanaticism, bizarre actions, general perversity and insanity are possible outlets. The whole subject is most complicated. It in-

volves the most profound questions of life and heredity."

The various phases of human life in which this superabundance of energy objectifies itself in the adolescent period are themes for a vast amount of literature. The most common of these themes and one which never will grow old is some kind of love affair. This is in evidence in the life of Maggie Tulliver in George Eliot's "Mill on the Floss;" likewise in the life of Gwendolen in her "Daniel Deronda." Love is the dominant thing in the lives of the adolescents, Marius and Cosette, in Victor Hugo's "Les Misérables." The same is true of David Copperfield in the adolescent period in Dicken's novel of that name. And what literature is there that does not have a love struggle of some kind connected with it? Note the struggle in Tennyson's "Locksley Hall."

Longfellow's youth, in "Excelsior," was an adolescent. Maud Muller was in the adolescent period.

"A vague unrest
And a nameless longing filled her breast,
A wish she hardly dared to own,
For something better than she had known."

Sir Launfal, when he started on his pilgrimage after the Holy Grail, was actuated by the enthusiasm of adolescent vigor.

Robert Elsmere in Ward's novel of that name is a type of adolescence whose excessive energy objectified itself in religious and philosophic doubt.

The emotional phase of adolescence often objectifies itself in creation. Thus much poetry has been produced by adolescents. Bryant wrote "Thanatopsis" at almost the beginning of the adolescent period. Byron and Shelley did their work as poets in this period.

. . . . THE SCHOOL ROOM . . .

WHERE THE OLD SAXONS LIVED AND WHAT THEY LOVED.

LYDIA B. BLAICH.

The brains of the little people are sometimes tormented by overfeeding on text-books; but "what a jubilee to them is the day they find an animated and vital teacher, who teaches by all the looks and motions and heart beats and spirit of him as well as by those dreary problems and difficult pages." Being Saxons, we should certainly be able to teach their history with vigorous heart beats and happy spirit.

The real teacher by no means confines his instruction to the text-book he hears recited; but he teaches out of the fullness of an abundant life, made rich by years of patient toil. He is continually consulting books heretofore unknown to him, that he may intensify, verify and clarify his present knowledge and power, which he does not only the first year he teaches, but the last and every other year. This one fountain of everlasting youth is the heritage of us all; we are, or should be, if we rightly live, apprentices unto the end.

President Eliot, of Harvard, says that one fundamental truth which should be taught pupils in a democratic society "is the intimate dependence of each individual on a multitude of other individuals at every moment of life. One mode of implanting this sentiment is to trace in history the obligations of the present generation to many former generations." And again: "The story of the human race should be gradually conveyed to the child's mind from the time he begins to read with pleasure."

The teacher, having "Wulf, the Saxon Boy," to teach, has the rare opportunity of introducing the child to the beginnings of his own race; and surely we are born "just in the right place and the right niche of time too; for the burning question to-day is, "What race shall lead in the striving toward the highest goals?" and there is little doubt in our minds that "the white man" who is to bear "the burden" is the Anglo-Saxon. Just the other day we heard a minister utter the following words: "Let us hope, too, that in this sympathetic alliance we will find at last allied not only England and America, but Germany also, for Germany belongs to us and we belong to her. She belongs to us because we are of her blood. England is almost altogether Germanic in her origin and history, and America is almost altogether Germanic in her origin and history. All the great onward moving forces of the world to-day in nations and in empires are born of the loins of our common Teuton mother."

If, as some one has said, the past is revelatory (i. e., if by its experiences it reveals what are the right tendencies by which the good and the true may be realized); and if, furthermore, the present is creative (i. e., if it is the creator of the ideals of the future) the time devoted to the beginnings and progress of our race is certainly well spent.

For you, dear children, who have spent many delightful hours in study in the peninsulas of Greece and Italy, there is yet another great treat in store. You enjoyed, no doubt, the beauty-worshipping

Greeks and the law-obeying and conquering Romans, and now you are ready to hear about the freedom-loving Saxons, who thought they were, in a way, a baby nation fifteen centuries ago, laid in spirit the foundation for your own dear great Republic.

In your stories of Rome, you have met these ancestors who helped to form the strong German people living east of the Rhine River, in the land bordering the Baltic and the North Seas. Do you remember the bands of German gladiators with their angry faces, who fought with each other and with wild beasts in the amphitheatres for Rome's amusement? And how did these Germans happen to be in Rome? Julius Caesar, that great Roman general, was the first to enter their land, to fight them and to take some of the captives to his own city.

If you will take out your map of Europe you will notice that the large country bordering the North Sea and the Baltic is to-day known as the German Empire. Here those early Saxons lived. Shall we trace the Roman general's route into this north country?

Leaving Rome he was compelled to cross the Apennines, the Po Valley, the Alps of northern Italy and Switzerland. And then what did he find? Great, stalwart people living in a land still mountainous, with narrow roads and vast forests. What happened then you already know. Let us say farewell to Caesar now and travel through the country at leisure without, at present, any thought of war.

Traveling beyond the mountainous sections of southern Germany, we pass into the low plains of the north. Do you notice the many rivers? Can you imagine how this land long ago was poorly drained and hence covered with great

marshes and swamps? Denmark, especially that peninsula jutting far out into the sea, was covered with marshy forests.

These Germanic peoples belonged to the great branch of the human family known as Teutons and were in many respects unlike the Romans, though both belong to the Aryan race. The English people; i. e., those living in England to-day, actually belong to this Germanic or Teutonic branch; and you well know that England is the mother country of the United States. Do you see now, in a little way, at least, why the Germans interest us so much?

Since Germany has high land in the south and low land in the north, it was quite natural for people to call those living in the south the High Germans, while those living in the north were the Low Germans. The English have their immediate origin in the Low Germans, who were composed of several tribes. The three most important were the Jutes, living in the marshy forests of northern Denmark; the Angles living in the heathlands just south of Denmark, that narrow neck of Germany now called Sleswick, and the Saxons, who inhabited the flat land between the Oder and the Rhine Rivers, bordering the North Sea and the Baltic.

About the fifth century A. D., some Jutes, nearly all the Angles of Sleswick and swarms of the Saxons, left their continental home and sailed to England across the North Sea; "for the swan road is ever the road to glory," as the Saxon boys learned so well from their fathers.

In order to understand our ancestors, the English people, we must learn to know their Saxon forefathers who lived in the old fatherland from which some of the brothers set out to make England. It is perhaps not flattering to us to learn

that these great, great grand parents of ours were a purely barbaric race when we first meet them, not indeed without some crude civilization, gained through many years of previous toil; but they were most decidedly military and predatory in their habits.

Before journeying across the swan road let us live awhile with them in their old German home, that we may the better understand their customs, occupations, laws, ideals, character.

In appearance the Anglo-Saxons were stalwart, tall, fair-haired and gray-eyed, with large, stout limbs. They were fearless and brave, delighting in plunder and bloody attacks, loving the roar of the storm and the dash of the wave, always choosing dangerous and perilous paths. An enemy was frequently attacked at night or during a heavy storm so as to increase the consternation—lightning and thunder adding greatly to their enjoyment and zest of life.

The Saxons believed themselves to be descendents of Odin or Woden, probably a brave and heroic warrior whose deeds in passing from generation to generation were so magnified that he finally became a god to them.

Nothing more glorious could happen than meeting death on a hard-fought battle field. They were then taken to their heaven called Walhalla, where they enjoyed daily conflicts with enemies, the hacking of limbs and such like bloody sport. No matter what wounds and pains were inflicted here, the twilight shades always restored the combatants to perfect health, after which they sat down to great banquets of boars' flesh, which they cut into slices with their daggers. The meat never diminished. Their favorite drink was mead, passed round in great horns or skulls.

They were most afraid of being a coward, and so a daily lesson for the boys was "It is only the coward who thinks he shall live forever." And what a dreary place that coward had to go to after he died! A dark, gloomy, desolate region, in which the occupants were hopelessly suffering from hunger and worry and torment.

The chief Saxon god was Thor, the thunderer, an angry god, who displayed his wrath by hurling great hammers or thunder bolts from the raging clouds. Sometimes these thunderbolts were found buried in their land. Can you imagine what they really were? Before the Saxons had lived in this land it was occupied by another race who made stone axes in the shape of hammers, which remained after the old race had disappeared and were found by the newcomers.

There is one weak spot in the Saxon courage. Think of these muscular men, great in physical power, being afraid of elves, ogres, monsters and giants who were supposed to inhabit the marshes and forests. They resembled the Greeks in believing in omens or signs. They carefully noted the movement of clouds, the direction of the wind, the flight and singing of birds. The new moon and the full one gave success to new enterprises. They believed in good and evil days.

To know beforehand the outcome of an undertaking, they cut twigs from the oak, marked them and scattered them promiscuously on a white cloth. A priest, looking upwards, picked up any on which his hand chanced to fall, and if it contained the lucky mark, success was sure to reward the heroes.

I wonder if any Americans of to-day inherited any of these feelings? Do country housewives have faith in planting onions and radishes and lettuce in

new and full moons? Do singing crickets on the hearth bring good luck, and does a moaning, barking dog, portend some evil?

Such were our forefathers—men who would startle at the stirring of a leaf or the shooting of a star, yet brave enough to rush upon the point of a spear with a flushed cheek and a bright eye, and who could look death full in the face without a feeling of fear.

BETSY ROSS.

MRS. E. E. OLCOTT.

February is the patriotic month, holding, as it does, the birthdays of Washington and Lincoln. Among the history stories, especially appropriate at this season, is that of Betsy Ross, who made the first flag that bore the stars and stripes, and the red, white and blue.

It should be familiar to every American child; so, for the convenience of teachers, who may wish to refresh their memories, the story is given.

Betsy Ross was born in Philadelphia, January 1, 1752. Her father, Samuel Griscom, helped to build Independence Hall. She married John Ross, a young upholsterer. His uncle, the Hon. George Ross, was one of the signers of the Declaration of Independence.

John Ross was an Episcopalian; he and his wife sat in Christ Church in a pew near that of George Washington.

Their home was at 239 Arch street; the house, built in 1682, is still standing. "It is a quaint little building, with gabled roof and dormer windows. * * * The very bricks of which it is built were brought over as ballast in the hold of the 'Welcome,' and were mortared into what was then a pretentious building, under the supervision of William Penn himself."

In January, 1776, John Ross died from injuries received while guarding military stores. His young widow bravely carried on the business alone.

In June, 1776, she was surprised by a call from her uncle, George Ross, Robert Morris and George Washington. They had come to engage her to make the first flag of the Union. She invited them into her little back parlor, where they could talk undisturbed. Washington produced "a pencil sketch, showing the outline of a flag of thirteen stripes with a field dotted with thirteen stars. Betsy noticed that the stars as drawn by Washington had six points, and she suggested that they should have only five. * * * He supposed a six-pointed star could be made more easily. Betsy replied that 'nothing was easier if one only knew how,' and quickly folding a piece of paper, with one clip of the scissors cut a perfectly formed five-pointed star."

Washington then redrew the stars. If that drawing had only been preserved, what a priceless treasure it would be to-day!

The committee were pleased with the flag that Betsy Ross made, and a year later, June 14, 1777, "Congress passed a resolution reciting 'that the flag of the thirteen United States be thirteen stripes, alternate red and white; that the Union be thirteen stars, white in a blue field, representing a new constellation.'"

People have wondered why there is no record of any discussion or debate in Congress about this resolution. This silence seems to be explained by the fact that the flag had been used by the army for a year before Congress took any action concerning it.

Betsy Ross soon received the contract to make all the Government flags, and held it for many years, her daughter, Mrs.

Clarissa Wilson, continuing the business until 1857.

Betsy Ross lived to a good old age, and was buried in Mount Moriah cemetery in Philadelphia.

In 1871, the question of the origin of the flag was discussed in the newspapers. An opinion was advanced that it was shrouded in mystery, that none could now tell when, where or by whom the first flag was made.

Thereupon, Mr. George Canby, a grandson of Betsy Ross, came to the rescue and removed all doubt. He wrote emphatically: "It is not tradition, it is report from the lips of the principal participator in the transaction directly told, not to one or two, but to a dozen or more living witnesses of whom I am one, though but a little boy when I heard it. I was eleven years old when my grandmother, Betsy Ross, died in our house, and well remember her telling the story.

* * * Washington was a frequent visitor at my grandmother's house before receiving command of the army. She embroidered his shirt ruffles, and did many other things for him. He knew her skill with the needle. Col. Ross, with Robert Morris and General Washington, called upon her saying they were a committee of Congress, and wanted her to make the flag from the drawing, a rough one, which, upon her suggestion, was redrawn by General Washington, chiefly because the stars were six-cornered, and not five-cornered (pointed), as they should have been."

Among the pictures that attracted attention at the World's Fair was Weisgerber's "Birth of the Nation's Flag." It represented the committee in Betsy Ross's parlor, viewing the completed flag.

The interest aroused by the picture led

to the discovery that the house is still standing and could be purchased.

An association was promptly formed, the purpose of which is thus explained in a circular: "The objects of the 'American Flag House and Betsy Ross Memorial Association' are to purchase and preserve the historic building, situated at 239 Arch Street, Philadelphia, Pa., in which the first flag of the United States was made, by Betsy Ross and subsequently adopted by Congress, June 14, 1777, and to erect a national memorial in honor of this illustrious woman. * * *

"Any person desiring to see the Old Flag House saved and Betsy Ross honored, may become a member of the association upon payment of 10 cents, for which they will receive a beautiful certificate of membership, size 11x14, duly signed by the officers of the association, and bearing the seal and certificate number. Upon these certificates in the center, is artistically portrayed the room in which Betsy Ross displayed the first stars and stripes to the committee appointed by Congress. On the left is an exterior picture of the Old Flag House as it stands to-day, while on the right is the picture of the grave of Betsy Ross, at Mt. Moriah Cemetery.

"These certificates will be sent to any address by express, charges prepaid, in packages of thirty, with the premium picture upon the receipt of \$3.00.

"Single certificates will be mailed to any address upon receipt of 10 cents and a 2-cent stamp for postage."

The premium picture is thus described: "A large reproduction, in ten colors, size 22x28 inches, of the original painting, 'Birth of Our Nation's Flag,' by Chas. H. Weisgerber, first exhibited at the World's

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Indiana School Journal.

PUBLISHED MONTHLY.

D. M. GEETING, }
GEORGE F. BASS, } - - - - - Editors.

ELMER B. BRYAN, - - - Associate Editor.

Discontinuance.—The Journal will be discontinued when the time for which the subscriber agreed to take it has expired. The figures preceding the dash on your label give volume of Journal; those following, the number of the volume with which your subscription expires.

Remittances.—Send postal money order, express money order, draft, or money in registered letter. Give name of agent who took your subscription.

Missing Numbers.—Should the Journal fail to reach you by the 15th of the month, notify the publisher AT ONCE; he will then supply the missing number.

Change of Address.—When a change of address is desired, the subscriber must give both the old and the new address.

Price.—Subscription price is ONE DOLLAR a year. Single copies 10 cents.

Address all communications to

INDIANA SCHOOL JOURNAL,
Commercial Club Building,
INDIANAPOLIS, IND.

Entered at the Indianapolis postoffice as second-class matter.

Erratum: On page 11 of the January number, in the last paragraph of the first column, instead of the words "Is it the Last Supper?" read "Is it the Marriage at Cana?"

THE STATE TEACHERS' ASSOCIATION.

The meeting of the State Teachers' Association recently held was one of the best meetings in recent years. The persons preparing the papers and the discussions upon them gave us their best thoughts. The Journal makes an unusually full report of this meeting, and believes it will meet the approval of the teachers of the State. A large per cent. of the Journal's readers are Indiana teachers and they need to know the trend of thought upon educational topics in the State Association. Again, the reports of this association become

matters of history, and the files of the Journal are frequently consulted by students of the work of this association, and for this reason the report is made full, and we believe, satisfactory, even if many articles are crowded out. These will appear later.

A GREAT MEETING.

Department of Superintendence of the N. E. A. will meet at Chicago, February 27, 28 and March 1. This is the most important meeting of the year for the schools. Every county and city superintendent in Indiana should attend this meeting. Do not stay away if it is possible to go. We have heard many times during the year just past that the Columbus meeting held last February was a great meeting. There is no reason why the Chicago meeting will not be a greater meeting. It is worth much to meet and listen to the best educators of the United States discuss the great educational questions of the day. No one can afford not to avail himself of this rare opportunity.

The usual rate of one and one-third fare has been secured from all passenger associations in the United States. Headquarters of the department will be at the Auditorium Hotel, and meetings will be held in Studebaker Hall. There should be at least two hundred from Indiana. Remember that the Victoria Hotel is the Indiana headquarters and that Room 59 is furnished the delegation free of charge. This hotel is less than a block from the headquarters of the association and only a short distance from Studebaker Hall, where the meetings will be held. Write to Supt. J. W. Carr, Anderson, or to State Supt. F. L. Jones, Indianapolis, and have rooms engaged at this hotel.

CANDIDATE FOR NOMINATION.

Calvin F. McIntosh, County Superintendent of Owen county, is probably the only man the Democrats will present at the coming State convention for superintendent of public instruction. Fortunately his education has well equipped him for public service. He is a good school man—a business man as well. He is conservative as a school man and does not chase shadows. He completed the work in both the country schools and the high school, and also, in 1892, completed the course in the State Normal School. He has had many years' experience in actual teaching both in Knox and Owen counties. He is now serving his third term as county superintendent of Owen county, each time chosen without opposition. This means much in that county, noted all over the State for her numerous active and excellent school men. Among the teachers and superintendents of the State he enjoys respectful recognition. His name scarcely ever fails to appear upon the program of the State Associations. He has held many responsible positions in these associations. At this time he is Secretary of the County Superintendents' Association, and Chairman of the Legislative Committee of the general association. His report on work of his committee before the last association called a halt on educational controversies in such a way that everyone was impressed with the pacific spirit. Mr. McIntosh is competent to fill the position he seeks. His nomination will be urged by school men who know him. Already many newspapers are advocating his nomination, and as he has been able to command a political influence that keeps him in close touch with the foremost workers of his party, it now looks as if he will be nominated by acclamation—a rare compliment to any man.

CONTAGIOUS DISEASES.

To many teachers and school officers it will be a matter of satisfaction to know the law, as construed by the courts, touching the closing of schools by the order of boards of health during the prevalence of contagious diseases. The Appellate Court (Vol. 10, p. 428) fully discusses this question and holds that the teacher is entitled to pay for the time the schools were closed by such order. The appellant admitted the execution of the contract sued on but averred that on the 6th day of March, 1893, the secretary of the county board of health notified the appellant, in writing, to close said school in order to prevent an epidemic of contagious disease and to preserve the public health; that at the time said school house was and remained closed, a contagious disease, viz., diphtheria, was prevalent among the pupils of the school. The question before the court: Was the teacher entitled to recover for the time she was not actually engaged in teaching the school? The court, in discussing this question, says: "It seems to us that if this case is well considered that it can make no difference whether the order was made by the school authorities themselves or by the board of health. In either case it will be presumed that it has been properly made, until the contrary appears. But the closing of a school by the order of a school board or a board of health is not the act of God, however prudent and necessary it may have been to make such order.

* * * It was the misfortune of the appellant, and if the appellee was present, ready and willing to teach the school, the fact that no pupils were provided her by the school board will not deprive her of recovering her wages under the contract.

* * * There is nothing to show that she was not bound to hold herself in readiness to teach whenever called upon to re-

sume her duties. Under the contract, her compensation was not confined to the actual number of days taught in the term, unless the omission occurred through her fault or through some cause for which she should be held responsible." For these reasons judgment was rendered for the teacher. In this connection see also 43 Mich., p. 480, where the conclusion is the same but the argument a little different.

BETSY ROSS.

(Continued from Page 86.)

Columbian Exposition, Chicago, 1893, will be presented as a souvenir to any person forming a club of thirty members, inclusive. These premium pictures will not be for sale, and when the objects of the association are attained, the plates will

be destroyed. Thus they will be a valuable family heir-loom."

Why not plan to secure one of these premium pictures for the school room before February 22. Celebrate that date as a sort of Flag House Day, and hang the picture with appropriate ceremonies!

All communications should be addressed to John Quincy Adams, Secretary, Old Flag House, 239 Arch Street, Philadelphia. A little pamphlet, "Our Flag, Its Origin and Symbolism," may be purchased of the association for 15 cents.

I am the proud possessor of a souvenir certificate and a premium picture; the secretary wrote me that certificates have been sent to every State and Territory of the Union; soldiers in the Philippines and sailors on warships have them, and a premium picture hangs in Dewey's flag ship, the Olympia.

EDUCATIONAL INFORMATION.

MISCELLANY.

RESOLUTIONS ADOPTED BY THE AUDUBON SOCIETY.

Resolved, That a committee of three be appointed by this Society to assist the State Superintendent of Public Instruction to arrange for an Indiana bird day, or in the adoption of such other method as may most effectively stimulate in our school children an interest in the preservation of our native birds, and that this Society pledges the Superintendent the sum of fifty dollars, to be paid as premiums for papers by school children during the year 1900, on the subject of birds, on the condition that all papers so offered are to become the property of this association.

Resolved, That the fifty dollars thus pledged shall be expended as follows, to wit:

1. High school scholars, first premium, \$15.00; high school scholars, second premium, \$10.00.

2. Grades 8, 7 and 6, first premium, \$10.00; grades 8, 7 and 6, second premium, \$5.00.

3. Grades 5 and 4, first premium, \$7.00; grades 5 and 4, second premium, \$3.00.

Resolved, That the awards of premiums shall be made by a committee, consisting of Messrs. A. W. Butler, George F. Bass and Mrs. M. N. McKay, and that all papers submitted for examination shall be sent to F. L. Jones, Superintendent of Public Instruction, on or before January 1, 1901.

The Department of Superintendence of the N. E. A. will meet in Chicago, February 27, 28 and March 1. The headquarters of the Association will be at the Auditorium, and the meetings will be held in the Studebaker building, adjoining.

The Indiana headquarters will be at the Victoria hotel, corner Michigan avenue and Van Buren street. Rates, \$2.50 per day, American plan. Room 59 will be furnished

the delegation free of charge. The hotel is but a short distance from the headquarters of the Association, and the accommodations are good.

The railroad fare will be on the certificate plan, one and one-third fare for round trip.

This is the best meeting of the year for superintendents. Indiana should have a delegation of two hundred. Write to Supt. Jno. W. Carr, of Anderson, or to State Supt. F. L. Jones, Indianapolis, to engage hotel accommodations.

STATE NORMAL NEWS.

The State Normal will have one of its old-time throngs at the coming spring term, which opens Tuesday, April 3. This is assured by the fact that the trustees have decided to admit the holders of the one-year license this spring. Three years ago the enrollment at the spring term was 1,351, which was beyond the capacity of the institution, and since then it has been necessary to require new applicants for admission at the spring term to hold a two-years' license or else a commissioned high school diploma. This restriction, together with the large attendance at the summer terms recently, has relieved the pressure so much that an effort will again be made to admit holders of the one year's license this spring.

President W. H. Armstrong and Secretary L. B. Martin have been reappointed by Governor Mount to succeed themselves as members of the board of trustees. Captain Armstrong has had a severe attack of pneumonia for the past two months, and much apprehension was felt at the Normal concerning his condition during the critical stage.

Col. Z. A. Smith, of the editorial staff of the Indianapolis Journal, Hon. S. E. Morss, editor-in-chief of the Indianapolis Sentinel, and John W. Kern, a prominent attorney of Indianapolis, have been engaged to deliver lectures within the next few weeks.

The Seniors have decided to give a Shakespearian play at the Grand opera house before commencement day.

January 5th was the thirtieth anniversary of the opening of the State Normal. President Parsons and Vice-President Sandison were among the sixteen students who entered on the first day.

The presidents of the classes for this term are as follows: Seniors, J. W. Kendall, Middletown, Henry county; Juniors, Ernest Weesner, Darlington, Montgomery county; Sophomores, Mr. Scott; Freshmen, Bertram Beasley, Hymers, Sullivan county.

Elmer Petty, '99, of Wabash, and W. V. Mangrum, '96, Superintendent of the Cynthiana (Posey county) schools, will be the spring term assistants in history and mathematics respectively.

The following resolutions were passed at the meeting of the State Board of Education held in January:

"Resolved, That Montgomery's American History, Hyde's Grammar, Hyde's Language Book, Indiana Physiologies and Speller now in use in the schools of the State, be continued in use during the five years subsequent to the expiration of the present contract, with such revisions as the State Board of School Book Commissioners may see fit to order.

"Resolved, That the rules of the State Board of Education relating to examinations for and the granting of Life State Licenses shall be and are hereby amended by the addition of the following: All graduates of higher institutions of learning in Indiana or other institutions of equal rank in other States approved by this Board, which require graduation from commissioned high schools or the equivalent of the same as a condition of entrance, which maintain standard courses of study of at least four years, and whose work as to scope and quality is approved by the State Board of Education, shall, on complying with the conditions enumerated below, be entitled to Life State Licenses to teach in Indiana. Provided, however, That graduation by the applicant shall have been accomplished by not less than three years' resident study and by thorough, extended examinations in all subjects pursued privately, and for which credit has been given by the institution. And, provided further, That the requirement as to three years' resident study shall apply only to applicants graduating after this date—January 18, 1900.

"First. Such applicants must have held one or more sixty-months' licenses.

"Second. They must present to the State Board of Education satisfactory written testimonials from competent superintendents, special supervisors, teachers, or other school officials to the effect that they have taught and managed a school or schools successfully for a period of not less than thirty months, at least ten of which shall have been in Indiana.

"Third. They must pass thorough, satisfactory examinations in any three of the fol-

lowing subjects: (1) General History of Education; (2) The School System and the School Law of Indiana; (3) Educational Psychology; (4) Experimental Psychology and Child Study; (5) Leading School Systems of Europe and America; (6) Science of Education, and (7) The Principles and Methods of Instruction.

"Fourth. Before entering upon the examination, such applicants shall present to the State Board of Education satisfactory evidence of good moral character, and shall pay five dollars each (the fee prescribed by law), which can, in no case, be refunded. Examinations in the subjects named above may be taken in either March or April.

"Fifth. A license will be granted to those who make a general average of 75 per cent., not falling below 65 per cent. in any subject."

For Applicants, not Graduates of Higher Institutions of Learning, Life State and Professional.

Examinations for these licenses will be conducted in the months of March and April.

Section 1. Subjects for March: Algebra, Civil Government, American Literature, Science of Education, and two of the following three subjects—Elements of Physics, Elements of Botany, and Latin (Latin Grammar, two books of Caesar and two of Virgil). A satisfactory examination on the above entitles the applicant to a Professional License, valid in any Indiana school for eight years.

Section 2. Subjects for April: Geometry, Rhetoric, General History, English Literature, Physical Geography, and two of the following three subjects—Chemistry, Geology, and Zoology. A satisfactory examination on both 1 and 2 entitles the applicant to a Life State License.

Where the Examinations May be Taken.

(a) Applicants for a professional license are examined by the County Superintendents on the last Saturday of March. The papers are to be graded by the State Board of Education.

(b) Applicants for a Life State License may be examined by members of the State Board of Education at any one of the following places on the last Saturday of April:

1. In the Department of Public Instruction, State House.
2. In the office of the City Superintendent of Schools, Fort Wayne.
3. In the office of the City Superintendent of Schools, Evansville.

4. In the office of the County Superintendent of Schools, Valparaiso.

5. In the office of the County Superintendent of Schools, Richmond.

6. In the office of the County Superintendent of Schools, Terre Haute.

7. In the office of the County Superintendent of Schools, Lafayette.

8. In the office of the City Superintendent of Schools, Seymour.

9. In the office of the County Superintendent of Schools, Bloomington.

The eightieth anniversary of the Foundation of Indiana University was celebrated on January 19th. Governor Jas. A. Mount was present and acted as chairman of the day. The leading address of the day was by Mrs. May Wright Sewall, of the Classical School of Indianapolis, who spoke on "Privilege and Responsibility." Mr. Benj. F. Long, of the junior class, represented the students in an address entitled "The University and Student Life." The Hon. J. E. McCullough, of Indianapolis, representing the alumni, followed with an address on the "Relation of the University to the State." Prof. J. A. Woodburn, of the chair of history, spoke on "The University and the State." Hon. Charles L. Henry, of Anderson, represented the trustees in an address on "The Advantages of State Support of Higher Education." Music was furnished by the college band and college glee club. On the evening of January 18th was given the "Student Play," under the direction of Prof. Martin Wright Sampson, of the chair of English. "As You Like It" was presented by the students in a very attractive manner.

The following circular letter has been sent by the State Normal School to all the county superintendents in the State:

Indiana State Normal School,
Terre Haute, Ind., Jan. 8, 1900.

My Dear Sir: For the past several years, the State Normal School has found it necessary, owing to the very large number of students, to limit the attendance in the spring term to certain classes of students only. We have admitted without examination only college and university graduates, graduates of commissioned high schools, and persons holding the three-years or two-years county license. Many county superintendents and others have regretted strongly the necessity for a rule that excluded from the school

in the spring term persons holding the one-year county license. It has been pointed out that probably nearly fifty per cent. of the fifteen thousand teachers of the State are teaching on the one-year license. Statistics recently collected by me show that this is a fact. It therefore seems a matter of great injustice that the only professional school in the State supported by the State for the training of public school teachers, should close its doors against this large class of teachers at the only term in the year when they can attend.

Two years ago the school decided to establish a summer term which should follow the regular school year. The very large attendance upon the summer term (618 in the summer of '98, and 663 in the summer of '99) has somewhat relieved the pressure in the regular spring term. For this reason it has been decided that hereafter the school will admit without examination in the spring term, the following classes of students: College and university graduates, graduates of commissioned high schools, persons holding the life State or professional license, and persons holding one or more three-years, two years or one-year county licenses.

A circular setting forth the conditions of admission for each of the terms of the current year will shortly be mailed to your address.

Very truly yours,

WM. W. PARSONS, President.

The total attendance at the Los Angeles meeting of the N. E. A., official count, is 13,656, which exceeds the largest record heretofore (Denver) by 2,359.

PERSONAL.

President C. W. Boucher, of the Marion Normal, has just added two hundred volumes to the law library of that institution. This addition includes the Indiana Reports.

Thomas E. Sanders, of Seymour, will spend a part of the winter in the South with the hope of regaining his health. He expects to enter school work next year with renewed energy. The Journal and his many friends will be glad to see him in the work again.

State Superintendent Jones delivered a lecture to the Washington High School last month. The lecture was much enjoyed by all who heard it. They have maintained a free lecture course in the city for two years. This speaks well for the school and community. W. F. Axtell is Superintendent.

Supt. Edwin S. Monroe, of Mt. Vernon, who was quarantined at home during the meeting of the State Teacher's Association, on account of smallpox in that city, writes that matters are again assuming normal conditions, and schools are again running smoothly. He feels that prompt action in this matter saved many lives.

Orville Apple, former County Superintendent of Orange county, has been appointed to a lucrative place in the Census Bureau. His many friends will join the Journal in hearty congratulations. The position will be well filled, for he is an accountant of rare ability, and rapid as well as accurate in his work. He began service on the 2d of January, 1900.

Supt. I. F. Mather, of East Chicago, Ind., reports the completion of their new high school building. Its dedication will be held on February 8, and Pres. W. W. Parsons, of the State Normal School, will deliver the principal address. This marks a new epoch in the schools of East Chicago, and the citizens are all greatly interested in the advantages this new building will afford them.

Alexander Thompson, County Superintendent of Grant county, ranks high among the superintendents for his good sense and his untiring efforts to improve his schools. His recent action will more than ever show him to be a man of rare attainments. He was married recently, and now has a purpose in life higher than that yet attained by him. The Journal extends best wishes.

Mrs. M. V. Marshall, a principal in the Indianapolis Public Schools for many years, is now Matron at Antioch College. She is the right woman in the right place. She has a wholesome influence on the young ladies of the institution that will be lasting. Her high culture and natural dignity make her especially fitted for this kind of work. The College is to be congratulated on securing her services.

Uncle John Morrow, of Charlestown, Ind., has a record for faithfulness and long service in school work attained by only a few. He has just retired from the profession after teaching forty years in Charlestown township. He takes great delight in solving

knotty problems in mathematics. He has contributed to the mathematical department of the Journal in the past. He still has great interest in school work, shown by his reading several leading educational journals regularly, and by his attendance of teachers' meetings and frequently leading in the discussions. He has earned the good name he bears wherever he is known. The Journal hopes he may live many years to enjoy the good work of his long and faithful service.

BOOK NOTICES.

"Hawaii and Its People, The Land of Rainbow and Palm," by Alexander S. Twombly; Silver, Burdett & Co., Boston and Chicago.

This volume presents a readable and reliable history of Hawaii that is interesting to both old and young. We have read a part of it, and are very sorry that we can not throw down the pen and read it all. The reader will feel as if he had visited this very interesting "string of islands." It will be remembered that on the 12th of August, 1898, these islands were officially transferred to the United States.

"The Physical Nature of the Child, and How to Study It," by Stuart H. Rowe, Ph. D.; The Macmillan Company, New York.

In the preparation of this book, the author has had in view two principles, namely, action is the first law of growth, and individuals vary enormously in their capabilities for different kinds of mental and physical action. The book contains many suggestions that will prove helpful to parents and teachers in their study of the physical nature of the child as a basis for his mental activity.

"The New Era U. S. History," by Alma Holman Burton, author of "The Story of Our Country," "Four American Patriots," "Lafayette, The Friend of American Liberty," "Massasoit," etc.; Eaton & Co., publishers, Chicago.

The author has used the narrative style in this book, in order to arouse an interest in the history of our country. We like the idea of placing the dates in the marginal notes. The maps and portraits have been selected with great care. The bibliography suggested in the footnotes, the table of contemporary European sovereigns, the table of the admission of the different States, the full-page

colored maps of territorial readjustments, are valuable aids in the study of history. We wish to call attention to the very full alphabetical index as another help in referring to any topic. The book contains more than four hundred pages, and is printed in large, plain type on good paper.

"Learning to Read," by Sarah Louise Arnold, School Supervisor, Boston; Silver, Burdett & Co., Boston and Chicago.

While this little book is designed primarily as a manual to accompany Miss Arnold's series of readers, "Stepping Stones to Literature," it will prove very suggestive to any teacher of reading in the primary grades. The author says its "excuse for being" is that it is the outcome of schoolroom experience, and an earnest desire to lend a hand to fellow workers in a common cause.

We have just examined a Librarian's Record, arranged by A. R. Hardesty, Superintendent of schools at Hobart, Ind. This book is complete and methodical, and ought to be in every district and city or graded school where the Young People's Reading Circle books or any other library is kept.

Superintendent Hardesty has also prepared an Institute Record and Grade Book for the use of township institutes that is the most complete we have seen. It should be used in every township. These Records may be had direct from Mr. Hardesty, at \$1.25 each.

"Alice and Tom, or The Record of a Happy Year," by Kate Louise Brown, D. C. Heath & Co., Boston and Chicago.

The author of this book has endeavored to present by means of Alice and Tom, first, a picture of free, healthy, hearty child-life; of loving and courteous relations between child and child, and between children and their older friends; second, a picture of child-life in its relations with the great outside world of nature; quickening of the recognition of that kinship between all created things; of the love, tenderness, and reverence which should grow from this knowledge; of the growth of a sense of law and beauty which such knowledge inspires; third, a realization of what the poets and great thinkers have felt about these things. The author has, we believe, accomplished all this artistically.

QUESTIONS AND ANSWERS.

HISTORY.

(Any five.)

1. Why did Columbus go to Portugal with his plans of discovery?
2. What did Magellan's voyage prove?
3. (a) In what four wars were the English colonists involved with the French? (b) State briefly the results of each as concerned the colonists.
4. Why was the battle of Brandywine fought?
5. (a) What was the attitude of New England toward the War of 1812? (b) Why?
6. Who was Dr. Marcus Whitman? How is he connected with United States history?
7. What was the "Trent Affair" in 1861, and in its settlement what important contention of our Government in 1812 was sustained by its action in 1861?

Answers.

1. Prince Henry of Portugal, known as "Prince Henry the Navigator," attempted repeatedly during a period of forty years (1420-1460) to find an all-sea route to the East Indies. Thirty years after Henry's death Bartholomew Diaz (1487) doubled the Cape of Storms, but the length of the new route caused Portugal to continue her search for a shorter one. Columbus was reasonable in expecting that Portugal would be hospitable to his theories, at least until they were disproved.

2. North America was laid down on the first maps as an island. Magellan's voyage (1519) gave the first strong evidence against this theory. The voyage of Drake, later (1577), strengthened the continental theory; but the true condition was not known until many years after. Hudson, in 1609, expected to sail into the Pacific by way of the river which bears his name. The voyage of Magellan is also instanced as confirming the theory of the rotundity of the earth.

3. *King William's War, 1689-1697.* The French and Indians destroyed Schenectady, N. Y., and the Colonists ravaged Port Royal, Acadia, but were repulsed in an attack upon Quebec.

Queen Anne's War, 1702-1713. The French and Indians laid waste part of the coast of Maine, and burned Deerfield, Mass. The Colonists took permanent possession of Port Royal, but met misfortune in the wreck in the St. Lawrence of

an expedition against Quebec, losing eight ships and 900 men. The treaty of peace gave Great Britain Acadia, Hudson Bay and Newfoundland.

King George's War, 1744-1748. The Colonists took Louisburg on Cape Breton Island, but restored it to France at the close of the war.

The French and Indian War, 1754-1763. At the close of this war France ceded to England all of her American possessions east of the Mississippi, except the islands of Miquelon and St. Pierre off Newfoundland. The expense of this war caused the King to levy upon the colonies the taxes which later led to the Revolution.

4. Washington fought the battle of Brandywine to delay Howe on his march to Philadelphia, and prevent his sending re-enforcements to Burgoyne in New York in time to be of service.

5. New England opposed the war. The Federalists, who were political opponents of the war party, were strong in New England. It was claimed that we were without justifiable cause for the war; that we were unprepared, and that our commercial interests would suffer greatly.

6. Dr. Marcus Whitman was sent, in 1836, by the Methodists as a missionary to the Indians at Walla Walla, in the Oregon country. We claimed this country by reason of the discovery of the Columbia river by Captain Gray (1792), and by reason of its exploration by Lewis and Clarke (1805). Dr. Whitman ascertained that the English Hudson Bay Company were planning to occupy the country with English settlers. Realizing the value of the region, he came east to impress upon the President the necessity of strengthening our claim by actual occupation. He himself returned at the head of a band of 800 emigrants.

7. Captain Wilkes, of the United States navy, took from the British steamer Trent two Confederate envoys, Mason and Slidell, who were on their way to Europe to solicit aid for the Southern cause. England demanded at once that the envoys be given up. Lincoln said: "We fought Great Britain in 1812 for doing just what Captain Wilkes has done. We must give up the prisoners to England." They were accordingly released.

READING.

(Based on general field of reading.)

1. While one member of the class reads, should the others close their books? Why?
2. Which is better for third year pupils: Short selections, or complete masterpieces? Why?
3. What should be the test of literature suitable for third and fourth year pupils to read?
4. How does training in reading tend to develop the mind of the pupil?
5. In school reading is the main purpose the grasp of the thought, or its expression?
6. What is the difference between reading and elocution?
7. In what consists the pupil's preparation of the reading lesson?

(Based on "How to Teach Reading.")

1. Will the ability to form the mental pictures as we read assure the right "quantity" and "quality"?
2. What relation does the teacher's appreciation of good literature bear to his ability to teach reading?
3. Should attention to reading increase or decrease as the school course is proceeding? Why?
4. Is the ordinary punctuation of a paragraph a safe guide in "grouping"? Why?
5. What advantages has the "getting-the-thought" method over the punctuational?
6. What principal results might we reasonably expect after a half-dozen years' instruction in reading?
7. What "time" is appropriate to the following, and why?

"City of the West
Built up in a minute,
In a business bustle,
Everybody in it;
On a race with time,
Fast as he can go,
Everybody thinks
Telegraphing slow."

Answers.

(Based on general field of reading.)

1. Not always. The kind of attention brought into action by following the reader with open books, and that brought into action by following the reader with books closed are both valuable. The first mentioned trains in the rapid interpretation of the symbols and sounds combined, the second in the rapid interpretation of the sounds alone.

2. Short selections, unless the "complete masterpieces," are short and the content intimately connected with the child's world of thought and life; otherwise the effort necessary will be too great for the child's immature powers, and the content not sufficiently connected with the child's ideas to be completely and permanently assimilated. Yet at all times we must keep in

mind that we are likely to underestimate the powers of the child.

3. There is no single iron-clad test. If the literature given to children of these grades treats (a) of children of their own age, in their own country or in foreign lands, (b) of life and its institutions closely related to their own knowledge and experience; of motives within the limits of their own comprehension and judgment; of new ideas closely related to the content of their own minds;—and if the effect of it all is elevating and inspiring—then it is suitable.

4. By enlarging his field of view, by sharpening his perceptive faculties; by making more vivid his old ideas; and by adding new ones. There is going on in the mind a constant effort to adjust the new ideas to the old ones, through the aid of relations. In no other line of work is there so much of the child's knowledge and experience brought into play in the acquiring of new knowledge, for in no other line of work is there such a variety of knowledge elements, motives, and images.

5. The main purpose is "the grasp of the thought," for this precedes and determines the oral expression.

6. In this question each indicates the manner of vocal expression, proper and effective oral delivery. To the term *elocution* there have always been connected ideas in regard to certain graces of intonation, gesture, and inflection, that were not considered pertinent in *reading*. These distinctions are based on the conception, that in *reading* from a book it is not proper or necessary to bring into use all the graces that are used in *elocution*. The tendency in the present times is to lessen the number of distinctions between them, and we think this is wise. Of a public reader we say "His *elocution* was good;" and we call to mind that the best public reader we ever heard omitted no grace, not even gesture, that is deemed necessary in *elocution* as it has been viewed in the past.

7. His mastery of the thought in it, so that he is sure as to the theme and its auxiliary lines. A ready power over the symbols, so that his *reading*, oral or silent, gathers easily their content.

(Based on "How to Teach Reading.")

1. Yes, if the mental pictures are properly felt, and their effect permitted to manifest itself in the tone. (See pages 84, 99 and 100.)

2. "Appreciation of the meaning and beauty of literature is the first requisite of a successful teacher of reading." (See pages 9 and 10.)

3. It should increase. The struggle of high school students in mastering the interpretation of the symbols in which are hidden the ideas of their lessons is a fact well known to all high school teachers. The power gained in training in such interpretation is the chief power needed in gaining knowledge and in gaining other powers of thought and observation. It opens the door to the whole world of science, art, history, and literature. Let the training in literary interpretation be constant throughout life.

4. Grouping is entirely independent of punctuation. If the spoken group coincides with the grammatical group, it is merely a matter of accident.

By carefully grouping we bring out the relation, make prominent certain ideas that need to be set apart by pauses of the voice, that their relation may be made clear, and that the meaning of the whole may be brought out clearly and effectively. (See pages 28 to 35.)

5. The punctuational method is not only mechanical and unreliable, but it dissipates energy that should be directed towards getting the thought. "Getting the thought" method implies what it means; the ideas are of first importance; all other features are dependent on them.

6. (a) Power to get the thought from the symbols easily and rapidly in ordinary reading matter. (b) Power to read orally in an effective manner.

7. Fast time, because the ideas are expressive of prompt action and the measure is of the quick-step variety.

10. What conditions are favorable to the production of rice?
11. What important results are due to the curvature of the earth's surface?

Answers.

1. (a) The average annual rain-fall is about 40 inches, and is somewhat greater in the southern part of the state than in the northern. (b) The coast of Washington.

2. A number of methods may be followed. The teacher's choice will depend upon circumstances. In elementary work the fact that continuous travel in the same direction eventually brings one to his starting point, and the phenomenon of the gradual disappearance of a receding ship, are simple and effective illustrations. With more advanced students, the outline of the earth's shadow on the moon, and actual calculations of the curve by experiments conducted upon short stretches of water which furnish the requisite level, may be given with profit.

3. The basin of the Kankakee was probably occupied for a short time by a glacial lake at the edge of the retreating ice-sheet. This region comprises the most extensive marshes and prairies in the state. The soil is very fertile except on the edges of the basin where much sand is found, probably deposited as beach ridges along the glacial lake. The river flows very slowly, yet the basin is sufficiently elevated to render good drainage possible by the construction of the requisite ditches, and much has already been done to that end. Its future outlook is favorable since this soil reclaimed by drainage will permit heavy cultivation for a considerable period without any perceptible decrease in fertility. The soil when properly drained is especially fine for grasses and grains.

4. The Mississippi carries to the Gulf of Mexico a very great amount of sediment. The quiet waters of the gulf do not interfere with the accumulation of this sediment at the mouth of the river, which thus forms an enormous delta. The delta began to form above the northern limits of the state of Mississippi and has grown outward into the gulf, filling the estuary which existed there, and transforming it to a broad flood plain as we now find it. Across this plain the river meanders in huge swinging curves forming oxbow cut-offs and crescent-shaped lakes which are often filled when the stream is in flood. The soil is low and marshy, but very fertile.

GEOGRAPHY.

(Any seven, not omitting 2, 8 and 7.)

1. (a) State approximately, in inches, the annual rainfall in Indiana.
- (b) In what part of the United States is the annual rainfall greatest?
2. How may pupils be led to see that the surface of the earth is curved?
3. Describe fully the Kankakee region of Indiana, setting forth the reasons for its present condition, the condition of the soil, the progress made toward its cultivation, its future outlook, etc.
4. Discuss "The Delta of the Mississippi," dwelling particularly upon its formation.
5. What is a storm? A cyclone? A monsoon?
6. What is the condition of agriculture in the Transvaal? Why?
7. What is a coastal plain? A flood plain? A delta?
8. What nation or nations have control of the Nile River? The Suez Canal?
9. Describe the llanos of South America.

5. The word *storm* is a general term which designates any condition of cloudiness accompanied by wind or rain, or both.

Cyclones are whirling movements of the air over wide areas caused by the difference in density between a comparatively small central region where the density is relatively slight, and the surrounding regions where the density is relatively great.

Monsoons are seasonal winds blowing toward the land in summer and from the land in winter.

6. The white settlers are scattered all over the country. They live in isolated family groups, each group living in the center of a huge farm of from six to ten thousand acres. The southern portion, or High Veldt, is chiefly pastoral land. The northern portion, or Low Veldt, has a semi-tropical climate and is very thinly settled. A few planters find it profitable to grow coffee and the sugar cane. The Middle Veldt is well suited in some portions for the cultivation of grain and other crops of the temperate climate. To a certain extent agriculture is pursued in the Middle Veldt, but the pasturing of vast herds of cattle and flocks of sheep, and the caring for droves of pigs and the rearing of horses constitute the chief occupations of the Transvaal Dutchmen.

7. A plain that was once part of the sea bottom and that is now near the coast is called a coastal plain.

Plains covered with silt deposited during floods are called flood plains.

A delta consists of low flat plains formed at the mouth of a river by an accumulation of sediment.

8. Egypt is nominally Turkish territory, but Great Britain has practical control of the navigation of the Nile (as well as of the government of Egypt).

The Suez Canal was originally constructed by French capital, but at present Great Britain controls it through her large ownership of stock, and through her exercise of a protectorate over Egypt.

9. See any good text-book.

10. The grass from which the rice grains are gathered is a swamp lover, needing an abundance of moisture, and growing in the low alluvial lands of the tropics, especially in districts likely to be flooded by great rivers.

11. It enables mathematicians to draw conclusions as to all its dimensions from a single measurement.

It enables uniform deductions and calculations to be made in regard to the force of gravity, and in regard to the navigation of the sea.

As you leave the equator, it causes temperature to decrease faster than it would were the surface a plane.

It makes possible the circumnavigation of the globe.

(Other results could be given, but it is questionable as to how far it is of value to speculate on this question.)

PHYSIOLOGY AND SCIENTIFIC TEMPERANCE.

(Any seven.)

1. How are the auditory cells made to vibrate?
2. Give the arrangement of the gray and white matter in each division of the brain.
3. How is heat distributed through the body?
(b) How is it regulated?
4. Describe the skin and state its functions.
5. Describe the structure of the kidneys.
6. Where provision has not been made for the proper ventilation of a school room, what can be done by the teacher to keep the air of the room from becoming vitiated?
7. State and explain the effects of tobacco upon the blood.
8. Describe the effect of alcohol upon the muscles.
9. Name three hereditary effects of the intemperate use of alcoholic liquors.

Answers.

1. The small hairs and hair-cells in the delicate parts of the ear are continuations of auditory cells in the delicate lining membrane, they float in a kind of lymph which sets in motion microscopic stones, or crystals, and their motion stimulates the hairs, which in turn stimulate the auditory cells connected with the auditory nerve filaments.

2. In both the cerebrum and the cerebellum the gray matter forms the outer surface layer and also makes up the ganglia deeper in their masses. In the spinal cord the gray cellular matter is internal and the white fibrous matter is external. In the medulla the arrangement is like that in the cord except that there is more gray matter relatively to the white.

3. The distribution of heat is accomplished by the circulation of the blood, and is maintained by oxidations occurring in the tissues. The distribution is regulated by a self-regulating mechanism of the nervous system. From a center to which impulses come reporting the state of the body, there are sent out impulses to increase or decrease oxidations for the production of heat.

(See pages 204 and 205 of text-book.)

4. (See text-book, pages 188 to 191). The skin (a) receives impressions caused by contact with external objects; (b) conducts heat slightly;

(e) is the protective covering of the flesh; (d) resists variations of temperature; (e) tends to preserve the external form of the muscles, and to give roundness and beauty to abrupt projections and depressions; (f) acts slightly as a respiratory organ, the same change of gases taking place as in the lungs.

5. See page 198, text-book.

6. By slightly opening a window at the bottom on one side of the room, and a window at the top on the other side of the room. (See text-book, pages 175, 176.)

7. The nicotine passes into the circulation by the process of absorption through the mucous membrane of the throat and lungs. The blood cells are thus poisoned and rendered unfit to perform their full functions.

8. The muscles possess less strength and less power of endurance by reason of the effect the alcohol has had upon their nerves.

9. (a) The craving for drink; (b) weak will power; (c) lack of self-respect; (d) a hardened conscience; (e) clownish silliness.

GRAMMAR.

(Any seven, not omitting 8th, 9th and 10th.)

Whilst the authors of all these evils were idly and stupidly gazing on this menacing meteor which blackened their horizon, it suddenly burst, and poured down the whole of its contents upon the plains of the Carnatic.

1. Classify the clauses in the above selection.
2. (a) Name three modifiers of "were gazing."
(b) Name the modifiers of "poured."
3. Classify the connecting words found in the same selection.
4. Give the syntax (case and reason) of (a) authors;
(b) meteor; (c) horizon; (d) whole.
5. State what each of the following modifies: (a) all;
(b) upon the plains of the Carnatic; (c) whilst.
6. Give the synopsis (first person, singular) of the verb "burst" through the indicative mode.
7. (a) Which of the verbs found in the selection are transitive and which intransitive?
(b) Give the voice of each verb.
8. How may a pupil be stimulated to increase his vocabulary and to improve his power of self-expression.
9. In what respects is drawing valuable in developing facility in the use of language?
10. Write not less than 100 words on one of the following topics with a view to its being criticised with respect to its spelling, capitalisation, punctuation, grammatical construction, proper use of words, and sentence structure:
(a) How I learned to read.
(b) A comparison of the early settlers of New England with those of Virginia.
(c) How a moth differs from a butterfly.

Answers.

1. The principal clause is "it....burst....Carnatic."

The subordinate clause is "whilst the authors....were gazing," etc.

2. a. (1) idly and stupidly; (2) on the menacing meteor; (3) whilst it....burst, etc. b. (1) down; (2) the whole of its contents; (3) upon the plains of the Carnatic.

3. (a) *Whilst* is a conjunctive adverb;
(b) *and* is a co-ordinate conjunction;
(c) *which* is a relative pronoun.

4. (a) "Authors" is in the nominative case, subject of "were gazing."
(b) "meteor" is in the objective case, object of "on."
(c) "horizon" is in the objective case, object of "blackened."
(d) "whole" is in the objective case, object of "poured."

5. (a) "all" modifies "these evils."
(b) "upon the plains," etc., modifies "poured."
(c) "whilst" modifies "burst and poured" in the principal clause, and "were gazing" in the subordinate clause.

6. Pres. I burst.

Past. I burst.

Future. I shall burst.

Pres. Perf. I have burst.

Past Perf. I had burst.

Fut. Perf. I shall have burst.

7. The verbs "poured" and "blackened" are transitive.

The verbs "burst" and "were gazing" are intransitive.

8. By surrounding him with interesting objects; by taking him on an excursion; by reading him an interesting book; by showing him interesting experiments; by creating in him a desire to read good literature, etc.

9. In the fact that the mind is brought into contact with many new objects, efforts, and ideas.

ARITHMETIC.

(Answer any six, not omitting No. 2.)

1. What is the distinguishing principle in the Arabic notation?
2. Add 63,954
87,445
13,294
51,687
91,532
72,927
51,470

82,044
94,514
12,592
88,416
97,654
92,314
82,405
96,185

3. A man has \$4,000 to exchange into German money. The mark is worth \$0.238. How many marks will he receive?
4. (a) If one-third of six be three, what is one-fourth of twenty?
(b) If three be one-third of six, what is one-fourth of twenty?
5. At what per cent. simple interest will \$500 gain \$113.90 in two years, three months and ten days?
6. Two-thirds of the value of a house equals four-fifths the value of a lot; both are worth \$4,400. What is each one worth?
7. Resolve the following into their prime factors:
 $1 - c^4 = ?$
 $a^4 - b^4 = ?$
 $x^2 - x = ?$

Answers.

1. The distinguishing principle in the Arabic notation is *place value*, a feature made possible by the use of the character zero.
2. The answer is 1,078,333.
3. $4,000 \div .238 = 16,806.72$, number of marks he will receive.
4. $\frac{1}{3}$ of $6 = 2$; $\frac{1}{4}$ of $20 = 5$; $2:3::5$ is to $7\frac{1}{2}$, answer.
5. The answer is $10\frac{1}{10\frac{1}{2}\%}$ per cent.
6. If $\frac{2}{3}l = \frac{1}{2}h$, $\frac{1}{3}l = \frac{1}{2}h$, and $\frac{1}{3}l$ (or all the lot) $= \frac{1}{2}h$; then as the lot $= \frac{1}{2}h$, the house and lot $= \frac{1}{2}h = \$4,400$; $\frac{1}{3}h = \$400$; and $\frac{2}{3}h$, or the house $= \$2,000$; lot $= \frac{1}{3}h$, or $\$2,400$.
7. $(1+c^2)(1+c)(1-c)$; $(a^2+b^2)(a+b)x(a-b)$; $x(x+1)(x-1)$.

SCIENCE OF EDUCATION.

NOTE.—In this subject five questions are based on general pedagogy and five on "Organic Education."

(Applicant to answer any five questions.)

1. Explain the meaning of the following proposition: "Education is not a preparation for life; it is life."—John Dewey.
2. In general, what do you think of the use of certain great typical periods of civilization as furnishing the material for the work of children in the different grades?
3. Upon what theory of the child's development is such selection of material made?
4. Is the view of the child's development upon which this theory of education rests a correct view? Give reasons for your answer.
5. Name several of the leading periods in the history of civilization which are usually chosen for such study.

6. "Everything should be done in the order of nature."—Comenius. Explain this proposition.
7. "That man, I think, has had a liberal education who has been so trained in his youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose intellect is a clear, cold logic-engine, with all its parts of equal strength, and in smooth working order; ready, like a steam engine, to be turned to any kind of work and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of nature, and of the laws of her operation; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or art, to hate all villainies, and to respect others as himself."—Prof. Huxley.

State in your own language the general ideal or conception of education set forth in this paragraph.

8. What elements of training and culture does it include?
9. As a definition of education is it defective? Give reasons for your answer.
10. What do you consider the principal defects of the educational systems of ancient China, Egypt and other Oriental nations?

Answers.

1. It means that the education an individual receives should be determined by the demands of his social environments. The individual then would be society acting in a certain direction. (Read pages 18, 19, 20 of "Organic Education.")
2. They are said to be chosen to satisfy the natural instincts and interests of children at certain stages of their development. (Read pages 3, 4, 5, 6.)
3. Upon the theory that in the child's development these periods seem to be consecutive in the lives of most of them, as well as in the history of civilization. (Read pages 3 to 7, inclusive.)
4. No one is yet prepared to say. The doctrine of M. Comte says that the education of the child must accord in mode and arrangement with the education of mankind as considered historically; that the genesis of knowledge in the individual must follow the same course as the genesis of knowledge in the race. One argument is based on the laws of hereditary transmission as considered in its wider consequences. (Read pages 7 to 11.)
5. See page 3.

6. It may mean many things, as follows: That (a) each faculty must be trained in accordance with that age of the child at which this faculty specially manifests itself. (b) That the child should be given a chance to grow into a knowledge of the things of nature that constitute the chief part of his environment. (c) That in the order of nature, knowledge intimately related to the child's world of thought and action should be given; that no material must be used that is beyond the insight of the child; that the child's interest shall in a large measure determine what it shall study; that the child shall be brought to knowledge by a road similar to that used by the race as a whole.

7. That such an education means (a) the perfect spiritual freedom of the possessor. (b) The harmonious development of the whole man, mentally, morally, and physically; every part capable of prompt action and of prompt obedience to the will.

8. The training and culture (a) of the virtues through a practice of them; of the body to a complete subjection to the will; and of the mind's faculties till they work together quickly and effectively.

9. Somewhat defective in the subordination of the development of character; in the lack of knowledge of self and the race, and of man's institutions and laws.

10. Little attention was given to the development of character; to the harmonious training of the various faculties of the mind; to the securing of general educational facilities. Generally, only males were educated, and their course of study was shamefully inadequate. No thought was given to the harmonious development of the whole man, in his threefold nature—mental, moral, and physical.

OFFICIAL.

To the County Superintendents:

The committee of county superintendents appointed to make questions for the examination of pupils who are candidates for high school graduation—the entire being in conformity with the provisions of Section 6, H. B. No. 223 of the recent enactments—submits the following rules and regulations, and upon separate sheets issues questions to be uniformly used in these examinations:

1. There will be three examinations, viz.: March 18, 1900; April 27, 1900; May 25, 1900. Different and separate lists of questions are provided for the three. Each list should be used only upon the date indicated upon the printed lists of questions.

2. The questions should be used only in the high schools over which the county superintendent exercises supervision.

3. The examinations should be held in the same manner as the bimonthly examinations in the common branches, the rules governing the latter being extended to the former.

4. Either the high school teachers and principal or the county superintendent may grade the manuscripts.

5. There are no questions in Latin except those covering two years (of nine months) of work. If the term be only six months in length, the Latin examination may be given at the close of the third year of work in that subject.

6. The examination for graduation in any subject should be given at the close of the year in which that subject is completed, e. g., a pupil should be examined in algebra in one of the three examinations at the close of the year in which he completes the whole subject of high school algebra.

7. No pupil should take more than one examination in any subject at the close of the school year.

Very truly,

FRANK L. JONES,
Chairman.

Dear Sir—A County Superintendent has the final decision in the matter of location of a school building. He should, however, take into consideration the advantages and best interests of the majority of the people. No appeal lies to this office in the event the citizens are not pleased with the County Superintendent's decision. It would be impossible at this time for a trustee to build a schoolhouse without the concurrence of the Advisory Board. In the event that the majority of the people do not favor the building of a schoolhouse, but the trustee and Advisory Board agree to do so, the people will have to submit. The trustee has very great authority in the matter of erecting school buildings.

PRIMARY LESSONS.

BY FLORENCE BASS.



I.

This is February.
 It is the shortest month of the year.
 Winter is still here.
 No birds have come back.
 No flowers can grow.
 The trees are still bare.
 The ground is frozen hard.
 Snow and ice are on the ground.
 The birds and flowers and leaves
 have been gone a long time.



II.

Have you heard of "groundhog
 day?"
 It is the second of February.
 People say the groundhog comes
 comes out then.
 He has been asleep in the ground.
 He comes out to see if winter is
 over.
 If he sees his shadow, he runs back.
 He will stay six weeks longer.
 Then there will be six more weeks
 of winter.



III.

February brings a glad day.
 All children love Valentine day.
 It is the children's day.
 What fun it is to get the pretty
 valentines and wonder who
 sent them!
 Better still, to surprise some other
 child!
 Best of all, to send them to some
 child who does not expect one.
 How pleased he is! How he won-
 ders who thought of him!



IV.

February is nearly gone now.
 The ground has begun to thaw.
 The first sign of spring has come.
 The sap has started in the trees.
 All trees have sap.
 One kind of tree has good sweet
 sap.
 It is called a sugar maple.
 We make sugar or syrup from it.



v.

Who is this?
 How long ago did he live?
 When is his birthday?
 What kind of a boy was he?
 Can you tell the "hatchet story"?
 Did you ever hear about his name
 growing up in the garden?
 What kind of a man was he?
 Tell something he did.
 What is he sometimes called?

vi.

Once a little boy tried to ride a colt.
 It was young and wild.
 It tried to throw the boy off, but
 could not.
 In the struggle, the colt fell dead.
 How sorry the boy felt then!
 He went into the house.
 "Have you seen my colt this morn-
 ing?" said his mother.
 "He is dead" said the boy.
 "Dead! Why, how did that hap-
 pen?"
 "I tried to ride him this morning.
 In trying to throw me off, he
 fell dead."
 At first the mother looked angry.
 Then she said: "I am sorry to
 lose my colt, but I am proud of
 my boy. He is not afraid to tell
 the truth."
 That boy was George Washington.



vii.

Whose picture is this?
 Why do we read about him in
 February?
 When did he live?
 What kind of a home did he have?
 How much did he go to school?
 What kind of a school did he
 attend?
 What kind of a man was he?
 Tell something he did when he
 was a man.

viii.

Once some men were going
 through the woods on horseback.
 Soon they missed one of their
 number.
 "Why! Where is Lincoln?"
 said one man.
 "He is over in the woods there,"
 said another. "He found two
 little birds that had fallen out of
 their nest. He has gone to find
 the nest and put the birds back."
 Soon Lincoln came up. The
 men laughed at him.
 "Well!" said Lincoln. "I
 could not have slept well if I had
 not given those little birds back to
 their mother."

Indiana School Journal

DEVOTED TO
LIBERAL EDUCATION

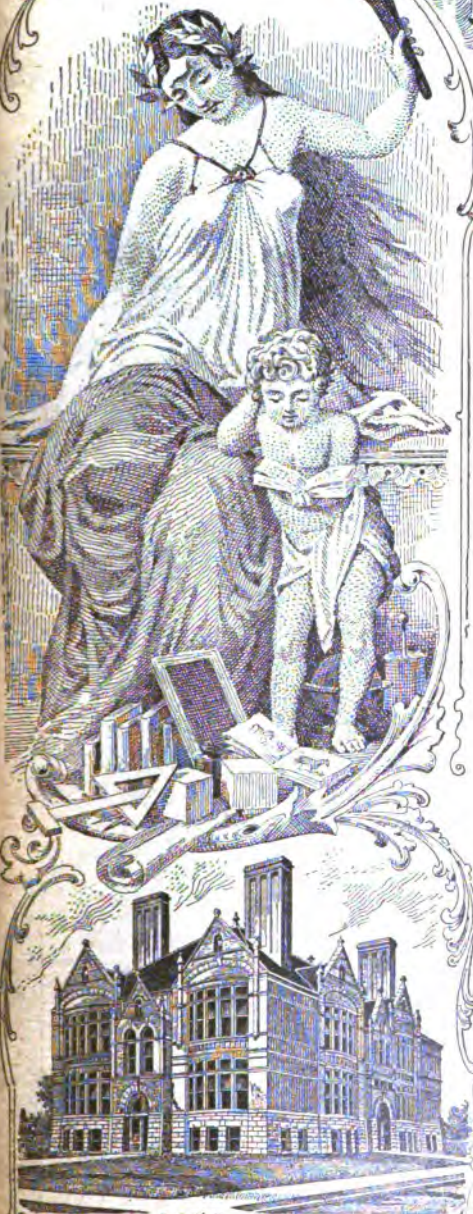


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INDIANA SCHOOL JOURNAL

VOL. XLV.

MARCH, 1900.

NUMBER 3.

DEVELOPMENT OF THE CHILD.

E. B. BRYAN, ASSOCIATE PROFESSOR PEDAGOGY, INDIANA UNIVERSITY, BLOOMINGTON, IND.

I wish at this time to conclude the work begun last month on "A Summary of Preyer's Observations on the Mind of the Child."

IX.

Expressive Movements.—On the twenty-third, tears flow; crying with tears and whimpering become signs of mental states. On the twenty-sixth day the smile of contentment was observed.

Sixteenth week, turnings of head and nodding, not significant; head turned away in refusal. Sixth month, laugh, accompanied by raisings and droppings of arms when pleasure is great. Arm movements that seemed like defensive movements. "Crowing," a sign of pleasure. Seventh month, averting head as sign of refusal; thrusting nipple out of mouth. Astonishment shown by open mouth and eyes. Eighth month, laugh begins to be persistently loud. Child no longer sucks at lips when he is kissed, but licks them. Eyelid half closed in disinclination. Interest in objects shown by stretching out hands. Ninth month, loud laugh at new pleasing objects; turns head to light when asked where it is. Tenth month, laughing becomes more conscious and intelligent; crying in sleep; striking hands together in sleep; object pointed at is carried to the mouth and chewed; body straightened in anger, perhaps not intentional. Eleventh month, grasping at his image, with a laugh; jubilant noise at be-

ing allowed to walk. Twelfth month, imitative laughing; crowing; laughing in sleep; opening of mouth in kissing; arms stretched out in desire. Thirteenth month, no idea of kissing; shaking head in denial; begging sound along with extending of hands in desire. Fourteenth month, confounding of movements; affection shown by laying hand on face and shoulders of others. Fifteenth month, laughing at new sounds; the words "Give a kiss" produce a drawing near of head and protruding of lips; wrinkling of brow in attempts of imitation; deprecating movements of arms; nodding sometimes accompanies the word "no;" first shrugging of the shoulders; begging gesture made when something is wanted, same in asking for amusement; wish expressed by handing a ring, looking at glasses to be struck, and saying hay-uh. Sixteenth month, lips protruded almost like a snout; shaking head meant "no" and "I do not know;" child shrugs shoulders when unable to answer; waiting attitude becomes a sign. Seventeenth month, shaking head means "I do not wish;" throwing himself on floor and screaming with rage. Eighteenth month, trying to hit with foot, striking, etc., waiting attitude. Nineteenth month, fastidious about kissing; pride in baby carriage. Twentieth month, proximity essential in kissing; bends head when "kiss" is said; antipathy expressed by turning head at approach of women in black. Twenty-third

month, kiss given as a mark of favor; striking hands together in applause and desire for repetition; tears of sorrow instead of anger; tries to move chair to table. Twenty-fourth month, roguish laughing first observed. Thirty-fourth month, kissing an expression of thankfulness.

X.

Imitative Movements.—Beginning of imitation the fifteenth week; protruding of the tip of tongue the seventeenth week. Seventh month, imitation of movement of head; of pursing of lips. Tenth month, beckoning imitated. Twelfth month, trying to strike with spoon on tumbler; puffing repeated in sleep. Fourteenth month, for imitating swinging of arms an interval of time was required; coughing imitated; nodding not imitated. Fifteenth month, coughing; learns to blow out the candle; opens and shuts hands in imitation. Sixteenth month, a ring put on his head in imitation; waiting attitude. Eighteenth month, blows a horn. Nineteenth month, combing and brushing hair, washing hands, etc. Twentieth month, use of comb and brush; putting on collar; scraping feet; putting pencil to mouth; marking on paper. Twenty-first month, imitation without understanding. Twenty-third month, imitative impulse seems like ambition; ceremonious movements imitated, and so in the twenty-fourth month.

XI.

Interpretation of what is seen.—Sixth month, child laughs when nodded to by father; observes father's image in mirror. Seventh month, staring at strange face. Eighth month, interest in bottles. Ninth month, boxes are gazed at; more interest shown in things in general. Tenth month, visual impressions connected with

food best interpreted. Eleventh month, trying to fixate objects. Fifteenth month, grasps at candle, puts hand into the flame, but once only. Sixteenth month, grasping at jets of water. Eighteenth month, anxiety on seeing man dressed in black. Thirtieth month, persistent daily to write locomotive.

XII.

Intellectual Progress.—Memory first active in the departments of smell and taste, then in touch, sight and hearing. Twenty-second day, association of the breast with nursing. Third month, seeks direction of sound. Fourth month, intellect participates in voluntary movements. Sixth month, use of means to cause milk to flow. Seventh month, child did not recognize nurse after an absence of four weeks, but children distinguished faces before thirtieth week. Ninth month, question understood before child can speak. Tenth month, knowledge of weight of bodies; child missed parents when they were absent, also a single nine-pin of a set. Twelfth month, ideas gained before language; logical activity applied to the perceptions of sound; abstraction, whiteness of milk. Thirteenth month, trying door after shutting it; hears the vowel sounds in a word. Fifteenth month, hunting for scraps of paper, etc.; after burning finger in candle flame the child never put it near the flame again, but would, in fun, put it in the direction of the candle; allows mouth and chin to be wiped without crying. Sixteenth month, child holds an ear-ring to his ear with understanding; a begging movement on seeing box from which cake had come; small understanding shown in grasping at ring. Seventeenth month, brings traveling bag to stand upon in order to reach; play of "hide and seek." Eighteenth month,

memory of towel, watering flowers with empty pot, plays giving leaves to stag, etc., stick of wood put in stove. Nineteenth month, father recognized after absence; brings cloth for wrap and begs door to be opened; grunts in order to be taken away; crying seen to be useless. Twenty-third month, joy at seeing playthings after an absence of eleven and a half weeks; concept of "cup" not sharply defined; use of adjective for the first spoken judgment. Twenty-fourth month, understanding of actions and use of utensils more developed than ability to interpret representations of them. Twenty-sixth month, child points out objects in pictures and repeats names given to them; points out of his own accord, with certainty, in the picture book; appropriates many words not taught him; independent thoughts expressed by words more frequently; "good-night" said to the Christmas tree; no notion of number; does not understand "thank you," but thanks himself. Twenty-ninth month, numbering active; numerals confounded; nine-pins counted "one, one, one," questioning increases; "too much" is confounded with "too little;" memory gains. Thirty-third month, understanding that violations of well-known precepts have unpleasant consequences. Thirty-sixth month, "When?" not used until close of the third year; great pleasure in singing, but imitation here not very successful, though surprisingly so in regard to speech; grammatical errors more rare; long sentences correctly but more slowly formed; ambition manifested in doing things without help.

XIII.

Feeling of Self.—Eleventh week, child does not see himself in mirror. Fourteenth week, child gazes at his own hands; one hundred thirteenth day for the first time regards his image with attention; one

hundred sixteenth day laughs at his image. Fifth month, discovery by child that he can cause sensations of sound; looks at his own fingers very attentively. Sixth month, discrimination between touch of self and foreign objects; gazes at glove and his fingers alternately; sees father's image in mirror and turns to look at father; stretches hand toward his own image. Eighth month, child looks at his legs and his feet as if they were foreign to him. Ninth month, feet are felt of and toes are carried to mouth; other objects preferred to hands and feet; in the bath his own skin is looked at and felt of, also his legs; his image in mirror is grasped at gayly. Tenth month, strikes his own body and foreign objects; image in mirror laughed at and grasped. Eleventh month, discovery of his power to cause changes. Twelfth month, strikes hard substances against teeth; gnashes teeth; continues to tear paper. Thirteenth month, raps head with hand; finds himself a cause; shakes keys; strikes himself and observes his hands; compares fingers of others with his own. Fourteenth month, child bit himself on the arm; pulls out and pushes in a drawer and turns leaf of book; looks at his image in hand mirror, puts his hand behind the glass, etc.; his photograph treated in like manner; recognizes his mother's image in the mirror as image. Fifteenth month, child bit his finger so that he cried out with pain; plays with his fingers as foreign objects, pressing one hand down with the other; tries to feel of his own image in the mirror. Sixteenth month, experiments by putting thumbs against the head and pushing; strikes at his image in the mirror; turns round to see his father, whose image appeared in a mirror; signs of vanity. Seventeenth month, makes grimaces before the mirror. Nineteenth month, attempts to give his foot. Twen-

ty-first month, places shells and buttons in a row; puts lace about himself; laughs and points at himself in mirror—signs of vanity. Twenty-third month, child holds biscuit to his toes. Twenty-ninth month, uses personal pronoun instead of his own name—"me," but not yet "I." Thirty-third month, "I" especially used in "I want that," etc. Thirty-fourth month, repeats the "I" heard, meaning by it "you." Fortieth month, pleased with his shadow. This hasty summary of Preyer's Observations as I have given them in this article and the one preceding it, will be found by no means to fit all cases. I have given it with a view of suggesting to those interested in the observations and study of children what things may fairly be expected using this summary merely as a

guide. A very helpful chapter is one which I have omitted altogether—the development of speech. This chapter as well as others on the development of the child will be found treated rather fully in (1) Preyer's books: (a) Development of the Intellect; (b) Infant Mind; (c) Senses and Will, published by D. Appleton & Co.; (2) Perez First Three Years of Childhood, published by C. W. Bardeen; (3) Frederic Tracey's Psychology of Childhood, published by D. C. Heath & Co.; (4) Margaret Washburn Shinn has written a number of monographs on the "Development of a Child, published by the University of California, Berkeley, Cal.; (5) Prof. J. Mark Baldwin's book on "The Child and the Race."

LANGUAGE IN THE ELEMENTARY SCHOOLS.

GEO. W. NEET, PROFESSOR PEDAGOGY, NORTHERN INDIANA NORMAL SCHOOL.

In this, the last paper on language lessons in the primary schools, an effort will be made to illustrate further and concretely the nature of what seems to me legitimate language lessons, and lessons in harmony with the principles and aims of primary language as discussed in previous papers.

The first lesson illustrated in this paper is well adapted to children of the fourth school year, and correlates with nature study. The time of the year is at the beginning of the fall term of school, about the first of September. The subject of study is the cabbage butterfly, and the work is both oral and written.

The children are asked to watch for butterflies in the cabbage field and find out what they are doing. Then some cabbage upon which eggs have been deposited are brought to school, placed in a cool

place, kept moist, and the development noted from day to day. At the end of about forty days the following suggested lesson is given:

How many have seen butterflies in the cabbage field? How large were they? What was their color? Did you watch to see what they were doing? What were they doing? Where did they deposit their eggs? What did these eggs look like? What was their color? Why? How many eggs were there together? Did these eggs change in appearance from day to day? What happened to these eggs about the tenth day after they were deposited? What were the little caterpillars like? What did they do as soon as they came from the eggs? How large were they? What was their color? Why? Did they long remain the same size? Why? How did they change as they grew? How long

did it take them to become fully grown caterpillars? How large were they when fully grown? What strange thing happened when they were fully grown? How did they hang themselves up? Where did the silk come from?

It has been previously shown to the children, when making the observations, that there are two long glands in the caterpillar's body which secrete and contain a viscid fluid. This fluid escapes through a duct, the outlet of which is at the middle of the nether lip. As soon as this fluid comes in contact with the air it hardens, forming silk.

Did they hang with their heads up or with their heads down? How long did they hang this way? Then what happened at the end of ten or eleven days? What difference was there in their appearance when hanging up, and their appearance before they hung themselves up? Can you remember that before they were hung up, each one was a caterpillar, and that after they changed, when hanging up, each one was a chrysalis? What difference was there between a caterpillar and a chrysalis? How did they go about it to change from chrysalides? What part of their shells split? What part of the body came out first? What next? How did they look after their last change? What will these new butterflies do?

The children have thus traced through the life history of the cabbage butterfly. There is perhaps enough material here for more than one oral lesson. The children should be required to write out the life history of the cabbage butterfly as a written language lesson.

The next lesson illustrated is adapted to fifth-year students, and has as its subject maize, or Indian corn. A corn plant is brought before the students for study, and led by the questions of teacher, the

pupils tell the following things about corn:

First, the questions are about the plant as a whole, and the children answer in complete sentences.

Corn is a plant. This corn plant looks like a big stalk of grass. Corn is a kind of grass. This plant of corn is seven feet and five inches high. This plant has a stem one and one-half inches in diameter at the bottom. This stem grows smaller towards the top. The diameter near the top is about one-fourth of an inch. This plant has a sprangle at the top. This corn plant has long sharp-pointed leaves like the leaves of grass. There are ten leaves. The leaves grow to the body at one end. The leaves clasp the body in a kind of boot. The leaves grow out at nodes. This stalk has four circles of roots at the base. The lowest circle is the smallest. The highest circle is the largest. This corn plant has three ears. The top ear is the largest. This plant has four baby ears, which did not grow large. This corn plant has parts. The parts of this plant are stalk, roots, leaves, flowers and fruit.

Secondly, the questions are about the stem, and the children answer as follows:

The stem is the central part of the plant. The stem is woody and stout. This stem has ten nodes above the roots. The stem is cylindrical. The stem has semi-circle grooves between the nodes. These grooves alternate as to sides with each node. The stem is hard on the outside and pithy inside. The stem is called the culm. The culm supports the leaves, flowers and fruit. The culm has sweet juice. Sugar, molasses and a spirituous liquor may be made from this juice. The stalk of corn is used for roofing. The stalk is good to make baskets of. The stalk is useful for fuel.

Thirdly, questions about the roots bring out the following:

The roots are grown to the bottom of the stem. The roots grow from the stem in circles. There are four circles of roots. The top circle is the largest. The roots of the lower circle are the smallest. The roots are of various sizes. Some of the roots are mere fibres. Some of the roots are one-eighth of an inch in diameter. The higher circle of roots grow out obliquely from the stem. The roots are braces to hold the stem erect. The fine roots scatter themselves among the soil. The fine roots have small mouths. The fine roots take up food from the soil for the corn plant.

Fourthly, questions about the flowers suggest the following sentences. Flowers in various stages of development are present for study.

Corn has two kinds of flowers. The tassel is a flower. The silk is a part of one kind of flower. The tassel is the staminate flowers. The silks are the stigmas of the pistillate flowers. Many little staminate flowers are found in the panicle tassel. The tassel crowns the culm. Many little pistillate flowers on an elongate receptacle make up the young ear. The young ear is axillary at the nodes. The staminate flowers produce the pollen. The pollen is little yellow grains of flower dust. The little threads of silk are sticky, elongated stigmas of the pistillate flowers. The pollen grains fall or are blown upon these stigmas. They stick there and feed the baby grains of corn. Without them the baby grains would die, etc.

The leaves and fruit would be treated in a similar way.

These lessons are assigned beforehand, with the actual material of study where the pupils have access to it. One lesson

of twenty minutes could profitably be spent on each subject—the plant as a whole, the culm, the roots, the flowers, the leaves and the fruit.

As the sentences are given they should be written on the board by the teacher. Each student should copy them in a notebook. After all is worked through this way, the students should put what they have copied in readable form. This, it will be seen, is real composition work under circumstances where the thought has been developed. These compositions should be read in the class and discussed. Since there are six divisions in the composition depending upon the divisions in thought, opportunity for teaching paragraphing naturally is furnished.

The third lesson illustrated is adapted to fourth or fifth-year students. The assignment is as follows: Just what can you tell about the meaning of "he" in the sentence, "He came in and found it?" Tell what shows each point of meaning. The following is the discussion: "He" means some object. This is shown by the form of "he" and by "came." The object is indefinite. This is shown by the form of "he," since he might mean a man, a dog, a horse, an ox, etc. The object is of male sex. This is shown by the form of "he." The object has voluntary motion. This is shown by the form of "he" and by "found." (One child here says that "came" shows that the object expressed by "he" has voluntary motion. A second says she does not think it does, because she could say it came in on the train, when it meant a box). The object was outside of something at one time, and afterwards was inside the same object. This is shown by "came in."

The above merely suggestive lessons (1) develop thought and feeling; (2) induce to the communication of this thought and

feeling; (3) furnish opportunities for kind and helpful criticism in both written and oral communication. And this is what all language teaching consists in.

The principle that thought development, with the mind's attention on the thought, is fundamental in language lessons is carefully adhered to.

And lastly the above lessons are in pursuance of the aims of language lessons in this way: The child is learning to use good English in the way he is called upon to use it throughout his life. He is led to do this to the end that he may fix the habit of communicating his thought and feeling in good English, both in oral and written form. This is the primary aim of all language lessons. Lessons first and second are particularly in harmony with the two aims in language lessons which are common to other subjects: (1) Good mental discipline; (2) the acquisition of knowledge valuable for guidance in right living.

The third lesson is in pursuance of the aim that language lessons should form a basis for other language subjects, particularly grammar. The best possible basis the child can have for those studies is the ability to see the exact meaning of a term in the sentence, together with what shows this. And this last lesson, while in harmony with all the other aims and principles of language lessons, has particularly this last aim also.

In conclusion, it has been the endeavor to show in this series of papers what language lessons should not be and what they should be. I should like for teachers to see that when they correlate their language lessons with geography, history, literature, nature study, etc., that in the light of both reason and experience, they are doing the very best sort of primary language work, and should, therefore, do the work with a good conscience.

SOME FACTS ABOUT ADOLESCENCE IN THEIR BEARING UPON EDUCATION.

SANFORD BELL, DEPARTMENT OF PEDAGOGY, STATE UNIVERSITY, BLOOMINGTON, IND.

Previous to adolescence the child's interests manifest themselves mainly in the form of play. During adolescence they take on, to a large extent, the form of work. Activity ceases to be chiefly entertainment and becomes in a larger measure purposive. It is a time of great intellectual awakening. Interests of a high order bud, put forth and wax strong. The holy lust for knowledge may come as a consuming baptism. These intellectual cravings, however, are not like the calm, organized interests that characterize maturity. They are not deep and abiding and patient like those that make the scientist, the in-

ventor, the engineer, the great scholar. But they are intense, extravagant enthusiasms, and may be as dominating as first love. They are Nature's experiment to test the young man in many lines of strength, to see which events he shall finally enter for on the great field day she has in waiting for him.

These enthusiasms come in sequence. One will make its appearance, become the dominant, the monopolistic interest, reign awhile and then sink into a secondary prominence, or perhaps pass away entirely to give place to another. The order of their coming may not be the same

in any two people. Individual differences among people will not only give rise to different sets of interests but will also introduce much variation in the order of the sequence. Each interest will have its own curve. One interest may be going down while another is coming up. They will differ in kind, in duration and in intensity. A few illustrations will make the point plain.

I know an adolescent who at twelve had a mania for mathematics. It was with him the one consuming thing. He worked day and night in this subject and never seemed to tire of it. He ranked lower in his other work, not on account of a lack of ability in other lines, but because he was taken by mathematics; not that he loved other things less, but that he loved mathematics more. The interest as a powerful enthusiasm lasted for more than three years. The youth was considered very precocious in this one line. He was known to have spent several hours each day for more than two weeks upon one problem in algebra which all the others in his class and his teacher failed to solve. The final victory which came to him must have been a sweet and sufficient reward for his labor. During the reign of this interest the boy, who had already made up his mind to be a teacher, repeatedly said that he was going to become a specialist in mathematics and finally teach that subject in some university. Before he was sixteen his love began to be divided between mathematics and physical geography. The latter soon won first place with him, and for about a year was the one love to which he was devoted. This was followed by a consecration of his life at the time to history; and then literature claimed first place; then followed philosophy, the speculative phases of it; botany, physiology, psychology and pedagogy in

their turn. At present the relatively mature man is at one of our great universities absorbed in sociology. The desire to specialize in each of these subjects while its interest was at its meridian was the equivalent of a working conviction, and while there was much interest manifested for things in general, these were by far more nearly the controlling interests during their respective reigns.

I will give some of the details of another case, which well illustrates a different but very common type. It is that of a well-known superintendent in one of the cities of this State. His first "mania" showed itself conspicuously at the age of nine in the form of a craze for collecting buttons. At eleven he was consumed at making looms, and I am assured that at this early age he made looms that were of considerable merit. Following at intervals of from one to three years the following enthusiasms had each its inning: Collecting fossils, collecting shells, botanizing, spiritualism, collecting pins, local history, anthropology, collecting old books, studying the Bible. The former case belongs to a type of mind with a strong love for knowledge as such. The latter is more nearly objective, and engages itself in doing things. As will be seen, nearly all of the interests in the latter case had to be satisfied through a great deal of physical activity. In regard to the "botanizing fever," the young man actually tramped over the States of Indiana, Ohio and Kentucky in order to study their flora.

As bits of biography, these cases have very little interest to general readers. As illustration of important psychological truths, with their pedagogical bearing, they and their kind are of considerable value, especially to teachers and parents. They seem to indicate that natural in-

tellectual growth proceeds along the line of certain dominant interests; that these interests do not appear simultaneously, and that they are of different intensities and durations. While these interests are ripening, the craving for facts for them to feed upon is very intense. They give the youth a motive and a principle of selection. It is the economical time for the acquiring of the facts that naturally organize themselves around the several interests. They furthermore indicate that the efforts to make courses of study uniform for all without being very elastic are not in keeping with the natural development of mind. They also brand as unnatural and uneconomical the prevalent practice of compelling pupils to strive for a uniform degree of excellence in all subjects which they are studying at any time. It may be the very best thing for a boy or girl to rank an hundred in history and sixty-five in geometry, especially if this ranking is due to the relative strength of soul-hungers. It might be the very worst thing possible, so far as his mental development is concerned, to force such a pupil to "bring up" his geometry. I believe that the finest type of mental power and excellence will come only by following Nature's suggestion—by discovering the soul-hungers as they appear and grow strong, and feed them plenty of their own kind of food.

These are conditions under which morbid or otherwise abnormal interests may spring forth. In such cases they are not to be encouraged, but be allowed to disappear through neglect due to the individual's being consumed along other lines. But there is little agreement as to what

interests belong in the catalogue of wholesome interests and what ones shall be ruled out.

In this day of infinite division of labor there is much powerful pressure brought to bear upon our young people influencing them to early specialization. As a rule this specilization is along the line of some dominant interest. The great danger lies in the selection of a specialty before one's final strength has shown itself. The interest which indicates one's bent—one's permanent strength—does not die out. Illustrations of young people's specializing in things which finally were not adapted to their peculiar strength, are too numerous and too common to need citation. Such a mistake is most calamitous in any life. If too early specilization were discouraged, and more time given to general education, one of the most important features of which is that it gives a longer time and a better chance for finding the special excellence which can most economically be attained, this mistake might be avoided to a very great extent. In everyone's education time enough ought to be given for these various interests to arise and assert themselves in order that their relative strength may be tested. In addition to furnishing an opportunity for selecting the thing the individual is "cut out" for, it gives him a broad sympathetic view of things, frees him from bigotry, gives him charity for the opinions of others, gives him a good sense of perspective and makes him an intellectual immune, who will be satisfied to settle down to his own problem and not dabble with everything else.

SCHOOL MANAGEMENT.

SCHOOL INTEREST.

SUPERINTENDENT J. H. TOMLIN.

The most important work of every child is to secure a common or elementary education. This is a requisite of whatever calling or vocation in which the child may be engaged later in life. Nothing should be permitted to stand in the way of the child's school duties. Anything which interferes with the progress of the school or places an obstacle in its way should be removed and give place to better conditions.

It is known and conceded by all teachers of experience that no progress can be made in school work without interest.

It is impossible to concentrate the energies or to fix the attention when interest is wanting. No interest means no attention. No attention means no acquisition. No acquisition results in indifference and antipathy to the school. To secure and maintain the interest of the child will always exercise the highest ingenuity and tact of the teacher.

The natural source of all true school interest must be in the actual, vital work of the school. It must be in knowledge subjects, in the branches taught. Any other source of interest is indirect and insufficient. Devices or agencies that do not find direct connection with the branches have no reason for their existence and can not bring about good educational results.

Here, as in everything else connected with affairs of the school, the teacher is the most important factor. The qualities of the teacher are contagious, and if he himself hungers and thirsts for knowledge, he has done much for his pupils.

Personal magnetism and earnestness of purpose also offer great help to the teacher in solving this problem.

Proper method has much to do with holding the attention. The mind is enlivened by progress and advancement. Correct understanding can not proceed by faulty routes. Accurate method insures advancement along natural and easy ways and is therefore conducive to interest. Faulty method tends to destroy interest. Discouragement of the pupils in their work, the desire to quit school, bad behavior, aversion to school work can often be traced to defects in method.

The Herbartians have contributed more, perhaps, than any other class of philosophers to the solution of the problem of interest. They have divided interest into six kinds or sources, as follows:

1. Empirical Interest.—That which is aroused by the variety and novelty of things seen. Variety is the spice of life, especially with the very young child. This source of interest is certainly quite suggestive to the primary teacher. The children of a certain clergyman became tired of corn bread and refused to eat it. The question was a serious one, as there was no change of bread to offer. At length the plan was devised of cutting the corn bread into the figures of elephants, whereupon the children ate heartily of the elephants and their hunger was satisfied. It often happens that spelling and number, and other dry, formal studies, become stale and nauseate the mental appetite, then change and variety must be offered. The antidote is the application

of the principle of variety. Serve the old lesson in a new style. (Try the elephant method.)

2. *Speculative Interest.*—That which inquires into the cause and nature of things. The natural inquisitiveness of the child is along speculative lines, and by proper stimulation becomes very active and effective. Children should at all times be encouraged to ask questions and inquire into things. This bent of mind is naturally active in the child and should be directed but never suppressed by the teacher. A proper guidance of this trait fosters the scientific spirit.

3. *Esthetic Interest.*—This kind of interest is aroused by what is beautiful, grand and harmonious in nature. To see the broad application of this kind of interest, it is only necessary to think of the extent of natural science and the various fields of related thought that it touches. To the thoughtful, cultured teacher, this source of interest offers much that is useful.

4. *Sympathetic Interest.*—That which is aroused by the joy or sorrow of others. The great charm of history, fiction, the novel, biography, and indeed of almost all forms of pure literature, is due to the sympathetic interest. That literature which deals with the individual and touches the life of a nation and people will always be found attractive. Were it not for a sympathetic interest in Harvey Birch and Ifucas, "The Spy," and "The Last of the Mohicans" would be dull and lifeless. John Alden soon has the sympathy of the reader in the "Courtship of Miles Standish." Were it not for the absorbing interest in "Evangeline" that story would be unknown. The principle does not end with man. It goes out to other animals and even to inanimate ob-

jects. The welfare of the "Ugly Duckling" holds the unabated attention of a fourth grade as steadily as does that of Robinson Crusoe. If the mere formal parts of our school readers could be transformed into stories of real life, new life and impetus would be given to the study of reading.

5. *Social Interest.*—This is aroused by the good or evil fortune of nations and societies. Love of country, liberty, fraternal feeling are based on social interest. This principle finds broad scope for its activity in history and related subjects.

6. *Religious Interest.*—This is aroused by faith in acts and goodness of Providence. It is not so broad in its application as the other principles, but may frequently be made use of in history and literature.

It may be noted that the first three kinds of interest mentioned above have their origin in nature and have their special application in the field of natural sciences. The second three sources are humanitarian and their special use is in the fields of history and literature.

These six sources of interest do not entirely solve the problem, but they suggest an abundance of material to the ingenuous teacher. Pushed into their various avenues of operation, they certainly avoid narrowness and offer much that is varied and attractive. Many diversions and distractions operate to destroy interest and to interfere with school work. The power of concentration is comparatively weak in children, hence their minds are easily diverted from their studies. This subject grows in importance as one thinks about it, and the teacher who has solved the problem for himself has added worth to his services and pleasure to his work. A

few related principles are herewith appended:

1. Never begin a recitation without the attention of the class.
2. Do not attempt to teach when the interest fails.
3. Regulate the length of the recitation to the age of the pupil.

4. Be steady and look the class in the eye.
5. Prepare every lesson with great care.
6. Attempt but one thing at a time.
7. See that the physical conditions of the school room are right at all times.
8. Be thoroughly interested yourself.

PARLIAMENTARY REPRESENTATION UNDER GEORGE III.

J. M. CULVER, ITHACA, N. Y.

To the different factions discussed in the last paper might have been added the interests. But these grew out of parliamentary conditions and can be treated in the present article. Prominent among these were the East and West India interests, the group of the London merchants, and that of independent members. London merchants and bankers bought seats in the House of Commons, and formed what was known as the London merchants' interests. The East and West India interests were groups in the House of Commons controlled by men who had gained large fortunes in the Indies. The way these interests were built up can be understood best by studying the individuals who controlled these interests.

The central figure of the East India interests was Robert Clive. He was the son of a country gentleman whose fortune was small. In the secondary schools he showed strong talents, but left England in 1743, at the age of eighteen, with only a moderate education. Going to India as a writer in the service of the East India Company, but finding this unsuited to his nature, he left it for service in the war between the English and French in India. His capture and defense of Arcot in 1751 brought him into prominence as a man of military genius. Failing in health, he re-

turned to England in 1753 with a moderate fortune. A part of this was spent in trying to get a seat in the House of Commons as member for St. Michaels, in Cornwall, which attempt was a failure. He returned to India as Lieutenant-Governor of fort St. David, reaching Madras the day before the tragedy of the Black Hole of Calcutta. Clive is now sent to Bengal to retake Calcutta. Here he entered into an intrigue with the general of the Mughal Governor of Bengal to overthrow the latter. The outcome was the establishment of the English power in Bengal, and a princely gift to Clive, who received from the Mughal general a present amounting in our money to from ten to fifteen millions of dollars. In 1760 he returned to England and this time succeeded in buying a seat in the House of Commons. "He appears to have cultivated parliamentary interests, and had a not inconsiderable number of followers in the House of Commons, but did not take a prominent part in English politics."¹ The number of followers was probably eight.

Clive may be taken as a type of the men who made their fortunes in India, then came back to England to build up followings in the House of Commons. Practically the same method was pursued by

¹Diet. of Nat. Biog., XI, p. 116.

those who had gone to the West Indies. The influence of these interests was not restricted to the men they controlled in Parliament. Indirectly, it extended to all engaged in buying boroughs. The price increased enormously between 1750 and 1765, and there was bitter complaint from the older politicians against the Nabobs of India, as they called men like Clive.

The best example of an individual interest is found in the case of George Bubb, commonly known as "Bubb Dodington." After receiving an estate at the death of his uncle, George Dodington, in 1720, he took his mother's family name, Dodington. He had entered Parliament in 1715 as member from Winchelsea, one of the Cinque-Ports. He soon became a follower of Sir Robert Walpole, and one of the prominent Whig politicians of the time. He becomes a political boss in the strictest sense. A few quotations from his diary will not only show him as a type of individual interests, but will illustrate the workings of the representative system of that time.

In a conference with Mr. Henry Pelham in May, 1752, Dodington discussed the conditions on which he was to use his influence to elect members favorable to the Pelham administration. "I began by telling him that the applications I had received from Mr. Ellis about his election at Weymouth, I considered as giving me handle to wait upon him; for I was come to offer him, not only that, but all the services in my power, and that I was authorized to say the same for all my friends."² Now, Pelham points out some difficulties in the way of a union with Dodington. Among these was the King's prejudice toward the latter. Dodington replied that he could be of some utility to his Majesty's service, by his own and by the

weight of his friends, particularly in choosing several members.³ He further said, "That, though I knew no pains had been spared to make him believe the contrary, yet I did assure him, as a gentleman, and his servant, that the interest of Weymouth was wholly in Mr. Tucker and me; that in the country it was impossible to choose one member against us, at least without the utmost violence."⁴

In a conversation with some of the Whig leaders, in August, 1753, about the possibility of electing the members for the county of Dorset, he gave the following: "I said, there could be no doubt of the Whigs carrying the election if they resolved upon it, because, to my knowledge, two-thirds of the property of the county were in their hands, and because I had carried it for Mr. Pitt's father (who was scarcely capable) when our property was considerably less."⁵ This is worthy of note, for the country members were more independent and free from bribery than the borough members.

The diary gives some interesting interviews between Dodington and the Duke of Newcastle concerning the elections of the year 1754, for March 21 it records, "That the engagements on my side were, to give him all the little interest I had, toward electing the new Parliament. I did it in the county of Dorset as far as they pleased to push it. I engaged, also, specially to choose two members for Weymouth."⁶

During the first week of April, 1754, Dodington and Lord Egmont were canvassing for a seat in the borough of Bridgewater. After being defeated, Dodington gives this account to Newcastle: "I began by telling him that I had done

³Ibid., 138.

⁴Ibid., p. 139.

⁵Ibid., pp. 245-246.

⁶Ibid., p. 274.

²Dodington's Diary, p. 137.

all that was in the power of money and labor, and showed him two bills for money remitted thither before I went down, one of £1,000 and one of £500, besides all the money then in my steward's hands, so that the election would cost me about £2,500."⁷ ⁸

For April 14, 15 and 16, he makes this entry in the diary. "Spent in the infamous and disagreeable compliance with the low habits of venal wretches."⁹ From the above extracts, we get the way an English political boss of 1750 to 1760 did things. It must not be forgotten that Dodington was a type of his time and not an exception.

The striking points in connection with the system of buying and controlling boroughs were the extent to which it was carried and the openness with which men of high standing engaged in it. One class of boroughs was known as proprietary. Of Wendover, Mr. Oldfield says: "It being the sole and entire property of Lord Carington, and its elective franchises are transferable in the market like any other goods and chattels." He further gives two instances in which the voters, 100 in number, deserted their proprietor for better paymasters. A Mr. Atkins, a rich manufacturer of the place, carried the election against the proprietor. This disobedience was punished by ejecting the voters from their houses. They were compelled to live in huts and tents for six months, when by promising good behavior for the future, they were restored. But a second time they deserted the proprietor. "One individual engaged that the two candidates should be chosen against his lordship's interests and influence for £6,000. This being settled, a gentleman was em-

ployed to go down, where he was met, according to previous appointment, by the electors, a mile from town. The electors asked the stranger where he came from? He replied, 'From the moon.' They then asked, 'What news from the moon?' He answered that he had brought from thence £6,000 to be distributed among them by the borough agent, and to whom the money was then delivered. The electors being thus satisfied with the golden news from the moon chose the candidates and received their reward."¹⁰ Another instance of this kind is found in the boroughs of Weymouth and Melcombe Regis. These consisted of two separate boroughs at one time, but they were united as one under Queen Elizabeth and given four members. "These boroughs were the property of the famous Bubb Dodington—then became the property of Gabriel Steward, Esq., lately deceased. This gentleman sold them to his nephew, Sir John Johnstone."¹¹

Another interesting specimen of proprietary boroughs is Camelford. It had 912 inhabitants, of whom only nine were voters. But their voting was only formal, for the borough was at one time the property of the Duke of Bedford who sold it to Mr. Carpenter for £32,000, who sold it to the Earl of Darlington.

One of the most glaring cases of fraud was that of Old Sarum. "Old Sarum retains the name and immunities of a borough it might be supposed for the purpose of ridicule only. To see a spot of ground, because it was formerly inhabited, possess municipal rights, have a nominal bailiff and burgesses, and return two members to Parliament who are called the virtual representatives of fifteen millions of

⁷£2,500 is worth in our money about \$14,625.

⁸Diary, p. 286.

⁹Ibid., p. 285.

¹⁰Oldfield's Representative Hist. of Great Britain, III, 88-90.

¹¹Ibid., III, 381-2.

people, is an absurdity so glaring as to render animadversion useless." Old Sarum was the property of the late Lord Camelford, who sold it to the present Earl of Caledon. His Lordship nominates seven voters for the election day, who return the two members."¹²

Passing from the proprietary to the patron boroughs we find practically the same subjection to outer influence, but a difference in applying it. The method of the patron's influence is well shown in connection with the borough of the town of Chester. "Although the number of electors is above 1,000, its representation has been entirely at the disposal of Earl Grosvenor, whose family has possessed the same influence, except in one or two instances at the revolution, ever since the reign of Charles II. This influence is created and preserved by securing the corporation which does not appear to be immaculate for more than a century, and by obtaining a lease from the crown of a number of tenements in this city. The members of the corporation, letting these from year to year only, as his lordship's agents, to electors at low rents, operate so far on their fears and necessities as to control their independence; to secure their own houses, they care not whom they send to reside in the house of the nation."¹³

Another notable example of patrons' borough was Grampound. "The Freemen of this borough have been known to boast of receiving three hundred guineas a man for their votes at one election."¹⁴

The extent of the influence of proprietors and patrons may be appreciated when we realize that an independent borough was such an exception that it called forth special comment. In speaking of the bor-

ough of Exeter, Burley says: "This is one of the few places in Great Britain which, in parliamentary language, is called an open city, from its not being under the influence of a nobleman or any other individual."¹⁵ The evil of the system is aptly put in the following: "It is insulting to the mind of a great and powerful nation to be told that there are not more than two hundred individuals in the country who are competent to choose a great majority of the legislators by whom they are to be governed. Seventy-three boroughs which send double that number of members are the personal property of individuals, and 474 out of 658 who compose the whole House of Commons, are returned by the nomination or personal influence of about 200 peers and opulent commoners."¹⁶ Excluding Welsh and Scotch boroughs, a study of the 206 English boroughs shows that 107 were proprietors', 60 were patrons' and only 38 were open or independent boroughs. Of the patrons' boroughs, 43 had fewer than 1,000 voters; 26 fewer than 100; 21 fewer than 50; 6 fewer than 20, and 2 fewer than 10. Of the proprietors' boroughs, the highest number of voters was 350; 9 had fewer than 100; 6 fewer than 50; 3 fewer than 20, and 2 fewer than 10. While the average number of voters for the open borough was about 4,000.

Such was the system under which George III's Parliaments were elected, those Parliaments that passed the "Stamp Act," the "Townshend Acts," the "Boston Port Bill," and all the measures for conducting the war against the colonies. This was the system that continued in England until the Reform Bill of 1832. The above is the justification of the statements made in the article in the October

¹²Ibid., V., 218-9.

¹³Ibid., III, 114.

¹⁴Ibid., III, 245.

¹⁵Burley's Rep. Hist., I, 135.

¹⁶Oldfield's Rep. Hist., V., 218.

number of the Journal. Theoretically, the House of Commons was made up of the representatives of the English people; actually it was made up of the repre-

sentatives of the rich borough owners. Theoretically, the English people were self-governing; actually, they were governed by a few aristocrats.

.... THE SCHOOL ROOM ...

THE CUSTOMS AND LAWS OF THE SAXONS.

LYDIA R. BLAICH.

The Saxons recognized four great classes of society—the noblemen, known as aethelings or chieftains; the freemen, who wore their hair long enough to fall upon their shoulders; the freedmen, who purchased or merited release from bondage; and the serf whose hair was closely cropped.

The leaders wore garments of scaly armor, which was made of rings locked together upon a leathern doublet. They carried large shields rimmed with iron, long spears, sharp pointed daggers and mighty battle-axes beset with dreaded iron spikes.

Although fighting was the main occupation, so much so that "it was unmanly to gain by sweat what one could earn by blood," yet other labors had to be called upon to furnish means of living. Little plots of ground were tilled in the forest, cattle were pastured and wild beasts were hunted and trapped in the great woodland belts.

In the middle of the clearing stood the little village. Each marksman, or free-man, owned a little shanty, a barnyard and some cattle. This was all the private property a man could possess. Outside the group of houses lay some farmland, pastures and meadows; the whole was surrounded by virgin forests. These pas-

tures, farmland and forests were distributed proportionately to the people for a year at a time by the village council. The land belonged to the village as a whole and was redistributed annually to keep the men from becoming too much attached to certain acres of land. Each village possessed a definite amount of forest, and to go beyond the boundary of it was a crime. The bounding line was indicated by trees rudely carved with the symbol or coat of arms of the village to which it belonged; such as an eagle, a raven, an owl, a deer, a boar, etc. What do we do now-a-days to keep strangers out of private property? Put up a barb wire fence or a sign board on a tree, "twenty-five dollars fine for hunting or trespassing on these premises," do we not? In olden times the trespasser stood in awe of old Grëndal, the man-cater, whose business it was to bring deserved punishment to the criminal. Was that any worse than being torn to shreds by a barb wire fence? However, I like this protection and regard for people's private property, because every one has rights that should be respected by you and by me.

In those days pigs were turned out to fatten on the acorns of the forest. I fear if that were attempted to-day in the youngest Saxon country, the poor animals would starve. We have not dealt so reverently with our forests. The people living near the sea and loving it, earned their

livelihood by fishing, which occupation, bringing them into contact with the dash and roll of the waves and tempests, afforded more pleasure than quiet rural duties.

The chief of the village had his hall in the midst of the smaller houses, and since by his high office he became the greatest servant of the people, his house was open to all comers.

Whenever a new law had to be made or justice had to be dealt out, an assembly of the freemen was called in the open air on a neighboring hill, near some monumental stone or under a sacred tree. Every free householder had a right to take part, and they discussed their village and tribal affairs as earnestly as our Senators and Representatives do our State or national affairs. Perhaps they never spoke of an act passing "unanimously;" but in mentioning such an event they would say, "We all clashed our swords," which was their way of expressing perfect agreement. Such meetings were called moot-courts, and every freeman felt it his sacred duty to do his part in the courts. Why do not we, too, permit all men to help directly in making our laws? Does every man in our day have a voice in the government? How?

In those days there were no kings; no man called another a superior; all were equal; and "to be a freeman was as good as to be a king." Do you know any country to-day where these same sentiments are held?

Whenever the tribes joined together in a war, the noblemen or aethelings of the various tribes cast lots. Whoever drew the right lot was commander for the time being. Afterward each tribe was again independent of every other. In a way this independence was nice, but do you

not wish they had joined their forces in times of peace as well, making one great brotherhood or mighty nation out of the many little tribes? But those old ancestors did love freedom so much that they were afraid if they united at all times, one tribe or one man would become more powerful than the others. However, to-day, Americans—yes, and the Germans, too—have learned that "in union there is strength," and if people are rightly minded, there is no sacrifice of freedom either. But the world has been a long time learning that lesson, and how it was learned, little by little, you shall hear in the near future.

What songs did these primitive folk sing and what books did they read? War songs were their special delight; for all other songs they felt contempt. Their books were scarce, indeed, for they had no writing material, but they were not totally unacquainted with the alphabet, which they borrowed in part from the Romans, changing the letters so as to make them look like strange signs, called runes. These were inscribed on door-jambs, lintels, wooden tablets, stone monuments, swords and metal utensils; and since boys did not go to school to learn reading and writing, the majority of people did not know their meaning, and as is generally true in cases of ignorance, they felt a little superstitious about them and held them in great awe, "for the gods could read them," and it was thought best for ordinary men not to meddle with them. Many of these runic characters were mere signs, sometimes remotely resembling some natural object. Their books were the bark of trees; especially did the beech form a favorite register. How much this makes us think of the habit some people have of cutting their own initials or those of

some other person's name on the trunks of trees or on railings protecting public property, and I am sorry to add, even on the counters in library rooms. There is no excuse for such things now-a-days. We have writing material in abundance.

There are bright poetic spots in the Saxon story as well as gloomy ones. The month of May, which, with its snow-white blossoms, dresses the world in a garment of purity, was known to them as the milk month. May, for us, recalls green pastures newly made, lowing cattle enjoying again the delights of outdoor feeding and living, and we rejoice that the Saxons selected such a pastoral name, while we are surprised that so warlike a people ever thought of such things. Contrary to the Greeks, they worshiped the sun as a goddess and the moon as a god.

Why should a Saxon sing—

“My ship is my sister,
My horse is my brother.”

Their ships carried them to foreign fields of conquest. Many a keel, capable of holding a few more than a hundred men, was rowed across to neighboring islands by hardy warriors.

The horse was the most sacred animal to them. White horses were kept at public expense in the groves of the gods. Their neighings and snortings were interpreted into prophecies. The earliest Teutonic leaders that set out for England were the Jutes, Hengist and Horsa, two names meaning the stallion and the mare. Over their keel floated the banner of the white horse. Some of the Saxons believed they were descendents from some particular animal or plant, such as the wolf, bear, horse, whale, ash, raven, boar. Many bore names indicating a plant or animal ancestor; e. g., Wulf, Ethelwulf, Eofer (boar), Thornings (sons of the thorn), Wylfings

(sons of the wolf). Whenever the Saxons were not occupied in defending themselves against an enemy they engaged in piratical robbery of surrounding peoples. It seemed absolutely impossible for the various clans to establish a peaceable union among themselves; hence many emigrated to foreign lands, and it was not till after several centuries of hard-fought conquests, followed in turn by other years of oppression by an outside foe, that they could dream of a brotherhood of Saxons.

BEZALEEL—A GEOGRAPHY STORY.

MRS. E. E. OLCOTT.

I wonder if there is anyone in this class who does not like to go to school! I shall not ask you to confess; instead I'll tell you a true story about some one who does care to go to school, cares very, very much.

Turn, in your geography, to the largest map of Africa and find Liberia. Point to the city of Monrovia. Do you see any other city in Liberia? Very few maps show any other, but there is one called City of Cape Palmas, and it is next in size to Monrovia.

You can see the cape called Cape Palmas, and you can easily fancy the city marked there too.

In that city is a mission, school conducted by Bishop Taylor. Years ago, the good bishop tried a plan to gather native children into his classes. He offered to give sugar and crackers to every child who brought a bundle of fagots to the mission. He wished to get acquainted with the children; the sugar and crackers were a very great treat and tempted them to come.

One day a little boy came with fagots. The bishop knew by the mark on his forehead that he belonged to the Gribo tribe.

This mark was a great scar made by cutting a long, deep, perpendicular gash with short oblique cuts leading to it from each side, so that it somewhat resembled the backbone of a fish. This is the tribe mark and by it the Gribos may always be known, for no matter how wrinkled and old they grow, that scar is always plain.

His mother, Habe, came with this little boy, and the bishop, after giving sugar and crackers to the child, said to her, "Give me your boy to be my school boy."

"No," said Habe.

"He will be very happy, he will learn much, he will grow up good and kind. Won't you let him be my school boy?"

"No, no," said Habe, "his father does not want him to be a school boy."

"Tell his father to come with him tomorrow and the boy shall have more sugar and crackers," said the wise bishop.

The next day the boy came again and his father, Kivia, with him.

"Give me your boy to be my school boy," said the bishop.

"No," said Kivia stubbornly.

He plead earnestly, but still Kivia said, "No! no!" So at last the bishop declared solemnly: "I will ask my Father for your boy and He will give him to me for my school boy."

"Who is your Father?" asked Kivia.

"My Father is the Great God," said the bishop impressively. He is your Father, too, and I want to teach your son to know Him."

"Your Father shall not give you my son," declared Kivia, and he took the boy away with him.

At home Kivia said to Habe, "We will send our son far away to my sister, then the bishop's father can not find him."

So they sent the child a twelve-day's journey into the interior and felt triumphant. But soon after he arrived there the boy was so terribly bitten by an alligator that it seemed he must die. Kivia and Habe were very sorrowful; they carried the sick child back to the bishop.

"You have cared for many sick people and made them well, won't you cure our boy, too?"

"I'll try," promised the bishop.

In three months the bishop sent for Kivia. "Here is your child; he is well and can go home now."

Then Kivia said, "I have no money, but my heart longs to pay you, so you may have my son for a school boy."

"I told you my Father would give him to me! My Father is great and He loves us all!"

The bishop named the boy Bezaleel, and he grew up in the mission school, faithful and true.

Bezaleel wished with all his heart to teach his people, so as soon as he was old enough he took a band of singers and went to a native village and preached. He went to that village four times and always preached the same sermon. The fifth time he went, the head man of the village met him and asked, "What are you going to tell us?"

"Just what I told you before," said Bezaleel, "I do not know anything else."

"Then you need not come," said the native. "The bishop tells us different things. We like him but we do not want to hear you any more."

Bezaleel was troubled. "I must learn more so I can talk as the bishop does," he said. "I must go to America to school."

(To be continued.)

THE PHYSIOLOGY OF DIGESTION.

SALIVARY DIGESTION.

CHARLES D. NASON, PH. D., PROFESSOR OF PEDAGOGY,
TRI-STATE NORMAL COLLEGE.

The longest war in the world's history, a war which is even yet waging with intense activity, but whose varied fortunes are not chronicled in the newspapers, is the conflict between the scientific and the humanistic studies. Now the one, now the other side is in the ascendant. Up to the present time, the elementary school has been comparatively free from the ill effects of this struggle because it is generally recognized that the first function of the elementary school is to place in the hands of its pupils the instruments by means of which further advance in education is possible. But with the enrichment of the elementary school curriculum, the conflict between the scientific and the humanistic studies must now be given earlier in the school course. At present the advocates of the humanistic curriculum occupy a coign of vantage in that even the real, or scientific, subjects in the elementary curriculum are treated in a manner characteristic of the humanistic studies. There is little contact with real things, and geography, physiology, and even arithmetic are studied chiefly from textbooks.

No subject has suffered more by this defect of method than physiology. This results partly from the fact that physiology proper is not taught very extensively in the schools. Hygiene and anatomy occupy most of the time of the teacher of physiology. Like physics and chemistry, which are tributary to it, physiology is an experimental science and should be taught as such. Sciences taught as sciences give rise to that scientific conception of things which becomes more and more necessary with the increasing com-

plexity of the industrial and social world. For anything like an adequate understanding of physiological processes an understanding of physics and chemistry is doubtless necessary, but much can be done to make intelligible to children of the grammar grades the process of digestion, and the experiments on which the study of digestion is based are of such an elementary character that they may be introduced into the classroom. In this paper on salivary digestion, it is supposed that the children have studied the anatomy of the mouth with the hygiene of the teeth, and are now ready for the consideration of the physiology of digestion.

The chief aim of digestion is to render the food soluble so that it may be absorbed into the system. This is accomplished by chewing the food and mixing it with numerous liquids, and the final expulsion of insoluble substances. In the process of digestion the chemical character of the food is completely changed, only water and soluble salts entering unchanged into the body. In these changes the saliva plays a prominent part. When food comes into the mouth, the saliva spontaneously begins to flow, and it may even flow copiously (i. e., our mouths may water), when certain articles are merely thought of, as for example, lemons, pickles, etc. As an illustration of this fact, one mischievous boy in the class volunteered the information that he could stop a street band by conspicuously sucking a lemon in front of the players.

If possible, a drop of saliva should be placed on a glass slide and viewed through a high power microscope. With care, the children will be able to make out the little patches of translucent matter which move slowly across the field of view. These are little formless cells resembling a piece of very soft jelly which can move

about at will simply by putting out processes on the side toward which they wish to move and by drawing in the processes on the other side. Thus they are akin to the white blood-corpuscles that act as scavengers in the blood vessels by devouring any disease germs which may get into the circulation. Also, they will see little lifeless scales which have broken away from the walls of the mouth and correspond to the dandruff in the hair or to the scales of dead skin that may be scraped from the palm of the hand.

But we are further to inquire, "What is the action of this fluid?" The saliva is principally of use as a mechanical agent in that it helps in swallowing by moistening the food. This flow is considerable, and in the course of a day may amount to one or two quarts. This large quantity of saliva passing through the mouth may deposit some of its chemicals on the teeth, forming what is known as "tartar." Besides rendering the food slippery so that it slides easily down the esophagus, it is of use in enabling us to taste dry substances, for, without it, we could not taste our food unless it were previously moistened. But aside from these uses, it has a chemical work to perform in the mouth. It changes starchy foods into grape sugar. A very simple way of testing this fact is to chew for some minutes a piece of dry, unsweetened cracker. The salivary action is so gradual that the chewing must be carried on for a few moments before the cracker becomes distinctly sweet. Starch itself does not dissolve, so that if it were not changed to sugar, it would remain in the mouth until the hard lump was swallowed. Now, if you take whole grains of wheat and chew them for some time there will result a ball of gum which represents the wheat minus the oil and the starch, which has been changed to sugar. What

is left is the gluten, which is not acted upon by the saliva. The power that saliva has to make this change of starch into sugar is due to a ferment in it, the action of which can be destroyed by previous boiling. But, as it is a difficult task even for a professional physiologist to explain the action of the digestive ferments, it is scarcely worth while to lay much stress on this fact.

But the action of the saliva may be more strikingly demonstrated. The materials required for the experiment are as follows: (a) A supply of saliva which has been filtered so that it is a thick, watery fluid. The saliva should be procured out of school hours by the pupils, and in collecting it they will easily discover the openings of the parotid, sublingual, and submaxillary glands. They will also probably remember having sometime seen it spurting from under the tongues of people who were talking. (b) There is needed a very thin paste, preferably of potato starch, (c) some grape sugar, or glucose. Ordinary cane-sugar would do, but it would necessitate the previous boiling with hydrochloric acid, which would needlessly complicate the experiment. Moreover, the presence of even a minute quantity of acid will prevent the action of saliva. (d) Some potassium hydroxide, (e) a little cupric sulphate, which is blue vitriol dissolved in water, and (f) a dilute solution of iodine, should be at hand. There should also be provided half a dozen test-tubes, about six inches long, costing ten or fifteen cents.

Before coming into the class room, the wise teacher will carefully go over the experiments to gain facility in such elementary acts as holding a test-tube in one hand and pouring from a bottle with the other. The procedure is as follows: Take up the bottle first in the left hand, remove

the stopper with the palm and little finger of the right hand, then take the bottle in the right hand without laying down the stopper, and then take the test-tube in the left hand. After arranging some device to hold the test-tubes in a prominent place before the class, we are ready for the experiments.

Experiment 1. Into some sugar solution pour as much again of the potassium hydroxide and add two or three drops of the cupric sulphate. The liquid becomes blue. If now it is boiled, a deep yellow powder sinks to the bottom. This is known as Trommer's test for sugar.

Experiment 2. Repeat Experiment 1, using instead of the sugar solution, the starch solution and the saliva in separate tubes. A blue powder will be deposited. On heating, the precipitate in the starch solution will become black, while that in the tube containing saliva will dissolve, giving to the fluid a violet color.

Experiment 3. Pour into a tube some starch solution and about a third as much saliva, shake well and place for a few minutes in front of a register, or warm gently over a flame to the temperature of the interior of the body (about 100 degrees Fahr.). On adding the potassium hydroxide and cupric sulphate, the mixture becomes blue, and, on boiling, the yellow precipitate appears as in Experiment 1, the test for sugar.

Experiment 4. To some of the starch paste add a little of the iodine solution. It changes to a blue color. This is the most common test for starch.

Experiment 5. Take a little of the digested starch from the tube of Experiment 3 and add iodine solution. There is no change, indicating that all the starch has been converted into sugar.

In these experiments, we have learned first the test for sugar, and then have

seen that there is none in the starch nor in the saliva, but that it appears as soon as these are mixed. Also, we have seen that the starch completely disappears after the solution has been acted upon for a few minutes by the saliva. The inference should, of course, be drawn by the pupil. Although the experiments have taken some time, the facts they have brought forth are so strongly presented that the time has been more profitably employed than if spent in mere textbook instruction. It will materially help if the next class composition period is devoted to the preparation of an account of digestion as it is carried on in the mouth.

BEGINNERS' BOTANY IN WINTERTIME.

HORACE ELLIS.

Those of us who listened to the sensible address of Dr. Coulter before the City Superintendents' Association last November, realized more fully a week afterward, than was possible to appreciate at the moment, that we had heard the words of one who spoke true things.

Some bold promontories of thought in that address jutted out into the dead sea of ordinary reflection—too abrupt to be outlined or measured with accuracy in a moment. One of the most valuable of his many useful suggestions was his clearly defined statement of the difference between science and the language of science. This was not valuable especially because of its newness, but rather because of its strangeness. And why strange? In this age of fluctuating pedagogical thought—this learn-to-do-by-doing age, this laboratory method age, it is not only surprising but almost startling for any one to defend the use of a textbook in the acquisition of scientific lore. Yet here was such a defense—and none could gainsay its strength.

However, the science work of our school involves various considerations. Some radical writers, disclaiming discourtesy, have openly declared against female science teachers, especially in botany, submitting as a reason therefor, the hackneyed assertion that science work is communion with nature. Such persons, as a rule, associate nature-communion with those other less enjoyable, yet, as they reason, inevitable habits of wire-fence-climbing, brook-leaping, and the like. A fatal delusion, this! Sex is not a prerequisite for science teaching. A scientific spirit in any honest, educated man or woman will assist young people in seeing and interpreting natural phenomena, and this, I surmise, may contribute not a little to the future happiness of the persons immediately concerned.

Fortunately for plant-study, though hygienic pursuits may suffer, the aimless rambling in the woods can not be indulged now for a few months. The "day in the woods" has its decided advantages to school children, but such benefits are not, as popularly fancied, of a strictly biologic character. Nor may it be attributed to the teacher, for wrong, that they come short of expectation. Why, for a moment, suppose it possible that young minds can drink in and assimilate the scores of phenomena intruding upon them with every outdoor step? Henry Thoreau's most enticing description relates to an ant fight—a battle royal, with its light brigades, its old guards, its gladiators; but this description emanated from data patiently and carefully gathered. He did not "just see" the fight and then pass on. His own confession makes him an eager eye-witness for hours of the "frightful carnage." It is but the old pedagogical maxim of the Roman scholars—*Repetitio mater studiorum est*.

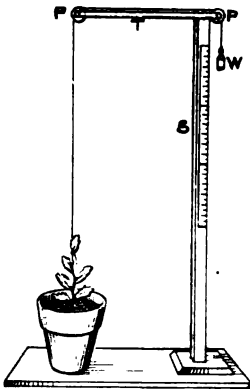
These winter months furnish ample opportunity to put to the test, by careful experimentation, by long-continued watching, many sacred tenets of scientific disciplines; to note intenser and richer attributes of the phenomena of our summer environment; to prove the falsity of such theories as require, for instance, the study of botany to give place to other subjects during the winter season, under the strange pretext of a scarcity or absence of flowers. It has been said that the fathers were more thoroughly learned than we, though *Pilgrim's Progress*, Webster's spelling book and the Bible constituted their libraries. If such were true, it may not fail of explanation in the fact that they were forced advocates of intension in education rather than of extension. And does not their experience bring its lessons to the teacher to-day?

As above suggested, these quiet winter months may yield up to the scientifically inclined teacher many deep mysteries. The best of all botany work is possible, if only resource and capability dominate.

Suppose, for example, the beginners of botany undertake something of this sort; procure a half dozen quart flower pots and as many ordinary white paper bags, the mouths of which, when opened, are large enough to fit over the top of the pots. Get Easter egg dyes and color some of the bags deep red, some orange, some purple, etc., and one jet black. After having planted a few grains of corn, some wheat, a few beans and peas, in each pot, inflate the colored bags, adjust the open mouth to the top of the pot, tying securely, and place these in the most favorable position for light. Leave one pot uncovered as a guide and also for the lessons which may follow by comparison. Subject all these pots to precisely the same conditions, watering none of them from above,

but whatever moisture is given them, and it should be the same in every case, should reach the plant by absorption from the plate holding the pot. The uncovered pot will indicate to the experimenters the time for removing the bags. If care has been exercised in the experiment (and no experiment possesses the slightest value if slothfully performed), some interesting facts may appear. It may be possible for pupils to know something of the relative endurance of plant life; and some impressions as to the unilateral development of plants under abnormal conditions may be formed. Watch carefully the plants as well as the top of the soil under the red bag. Compare the degree of moisture in the soil of the various pots. Note the relative height and color of the plants. Study the apparent strength of the different kinds of plants in the same pot. Watch for tinges of color in the tender stems.

After having made the observations indicated, and others like them, try something further with the same plants. Ask an ingenious boy—some “thoroughly (?) depraved, reeking with nicotine” lad would doubtless be glad to serve you—to construct a simple machine like the cut.



The upright, S, with a penny ruler tacked to one side to serve as a graduate,

should be about 18 inches high; the cross-beam, T, not more than 6 or 7 inches long. The pulleys, PP, may be constructed from silk thread spools, and the weight, W, should be only sufficiently heavy to hold the silk thread, attached to the top of the plant, taut. With this machine endeavor to ascertain the rapidity of growth per day, of plants under the conditions indicated. This may be done by first running the thread through the paper bag, bottom first, then, after tying the thread to the uppermost bud, the bag may be re-adjusted to the pot, when the thread may be adapted to the pulleys of the machine.

One can easily see to what extent this very interesting experiment may be carried. One of the most beneficial features of it will consist in the pointing out by pupils, of consistent objections to results obtained. Sweeping conclusions may scarcely be indulged by the teacher. Let pupils understand the scores of obstacles in the way of arriving at too many eternal truths. And yet such experimentation must not be suffered to degenerate into mere opportunities for useless disputations. A very slight effort in the line here suggested will convince the most skeptical of the large possibilities for nature study work in winter time.

West Lafayette, Ind.

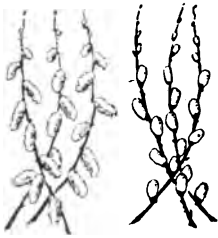
Teaching is living intelligence, dealing with life.

If you can do and won't do, doing nothing may be worse than anything you can do.

A loving spirit is its own reward. Its love may not be returned but its love can not be lost. The gain of loving and its reward is—in loving.

PRIMARY LESSONS.

BY FLORENCE BASS.



I.

The windy March has come now.
It is a spring month.
It does not seem much like spring.
Here is one sign of spring.
You all know pretty Pussy-Willow.
You have often seen her in her fur coat.
Do you know her when she throws off this fur coat?
Do you know that she is a kind of flower?



II.

What does this picture tell you?
How do you know the wind is blowing?
Do you know what color the wind is?
Can you tell how it looks?
You see the trees bend and the leaves fly. You see the boy's hat fly off.
You know the wind is blowing, for you can see what it does.
You can not see the wind itself.



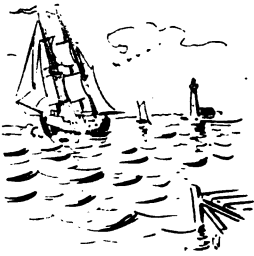
III.

When it is dark you can not see what the wind does.
Still you can stay in the house and tell that it is blowing.
You can hear what it does.
You can hear the windows rattle.
You hear the wind whistle round the house.
You hear it make music in the pine trees.
Perhaps you can hear a great windmill go round and round.



IV.

These little girls know the wind is blowing.
They do not need to see it or hear it. They can feel it.
One little girl is trying to walk against the wind.
She can hardly do it. The wind is very strong. It almost blows her cloak off.
See the little girl walking with the wind. It almost carries her along.



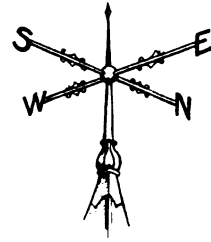
V.

Does the wind do any good?
 Sometimes it pushes boats across
 the water.
 It turns the wheels of windmills.
 It helps plant many seeds.
 It brings us rain-clouds.
 It helps dry up the earth in spring.
 It blows the waterdrops out of
 clothes on the line.
 Sometimes it plays with you.
 It carries your kite up into the sky.



VI.

Sometimes the wind acts like a
 great giant.
 It tears up great trees by the roots.
 It even blows down houses.
 Nothing is able to stand before it.
 Then we call it a cyclone.
 How very powerful it is!
 Yet we could not see it or hear it
 if nothing were in its way.
 Is it not queer that we can not see
 or hear such a great thing?



VII.

The wind does not always come
 from the same place.
 Sometimes it comes from the
 North.
 Then it brings us cold weather.
 That is a message from Jack Frost.
 Sometimes it comes from the South.
 Then it brings us a bit of weather
 from the warm country.
 If it comes from the East it brings
 us damp weather—rain or
 snow.
 The West wind brings us bright,
 clear weather.



VIII.

It is now the last of March.
 Some birds have come back to us.
 The robin has been looking about
 a little.
 Perhaps he is looking to see if it
 is time to come to stay.
 The bluebirds have been seen
 here, too.
 How glad we are to see them again.
 What pretty songs they sing to us!
 I wonder if they are trying to tell
 us about their trip.

Indiana School Journal.

PUBLISHED MONTHLY.

D. M. GEETING, }
 GEORGE F. BASS, } - - - - - Editors.

ELMER B. BRYAN, - - - Associate Editor.

Discontinuance.—The Journal will be discontinued when the time for which the subscriber agreed to take it has expired. The figures preceding the dash on your label give volume of Journal; those following, the number of the volume with which your subscription expires.

Remittances.—Send postal money order, express money order, draft, or money in registered letter. Give name of agent who took your subscription.

Missing Numbers.—Should the Journal fail to reach you by the 15th of the month, notify the publisher at once; he will then supply the missing number.

Change of Address.—When a change of address is desired, the subscriber must give both the old and the new address.

Price.—Subscription price is ONE DOLLAR a year. Single copies 10 cents.

Address all communications to

INDIANA SCHOOL JOURNAL,

Commercial Club Building,

INDIANAPOLIS, IND.

Entered at the Indianapolis postoffice as second-class matter.

THE EVANSVILLE SCHOOLS.

During the past month we had the pleasure of visiting the Evansville public schools, this being our second visit within a year. It gives us great pleasure to note the spirit of progress that exists among teachers and school officers. Mr. W. A. Hester is in his sixth year of service as superintendent. When he took charge of the schools many of the buildings were very poorly lighted, heated and ventilated. While he did not believe that the building is all in education, he was thoroughly convinced that without good health no pupil can do his best; and that pupils who were compelled to sit in rooms with bad light, uneven temperature and bad ventilation, could not have good health; so he began at once to take steps to have old buildings remodeled and new ones constructed on a plan that would secure proper heat, light and ventilation.

In addition to this, teachers and parents were urged to do all they could to make the school room attractive. Flowers and pictures were placed in many of the rooms. The old, slick, liquid-slatting blackboards were replaced by stone-slate boards; dingy walls were painted a color both restful and pleasing to the eye. "Hot-blast-steam" system of heating has been placed in five of the buildings of the city. A large and commodious high school building and neat, comfortable offices are located in the same lot, and both are a credit to the city.

We wish to call especial attention to the beneficial results obtained by the hot-steam-blast system over the old stove and hot air from furnaces. About the same number of rooms are heated by each of the two systems with the following result, which we copy from the Superintendent's report:

During last school year there were fifty-nine school children who were afflicted with diphtheria or scarlet fever. Of these, fifty (nearly eighty-five per cent.) sat in rooms heated by stoves or furnaces, while nine (about fifteen per cent.) sat in rooms heated by the more modern system. Thus during its first year's trial in our schools the system proved that a child fortunate enough to be seated in a room heated and ventilated by this plan stood eighty-five chances in a hundred of escaping the dread diseases of diphtheria and scarlet fever, while in the buildings heated after the older methods he would have stood but fifteen chances of escape.

The record for the first four and a half months of the present school year is even better than last year's record. There have been reported by the health board thirty-seven cases of contagion among the school children. Of these thirty-two (about eighty-seven per cent.) have been located in buildings heated with stoves and furnaces, while but five (about thirteen per cent.) in rooms heated and ventilated by the hot-blast-steam system.

We here present a letter from the Secretary of the State Board of Health, who has personally investigated the systems of school-room heating and ventilating in vogue in this city. His letter is as follows:

Indianapolis, Ind., Sept. 29, 1899.

Prof. W. A. Hester, Superintendent Public Schools, Evansville, Ind.:

Dear Sir—I write to offer through you to the citizens of Evansville the congratulations of the State Board of Health on account of leading the State in the matter of sanitary school houses. Your Board of Education, in building school houses according to sanitary principles, are wisely applying well known scientific laws. This means economy for the private and public pocket and also a fuller measure of happiness for those homes which are blessed with children. By far the greater number of our school houses are so constructed as to deny to the pupils pure air, even temperature and proper light. This, of course, is wicked extravagance, for to deny conditions of health demanded by nature can not be else than wicked and it is extravagance, because unhealthy surroundings prevent study and progress. As we send our children to school that they may study and obtain an education, it is not good business to place them in an environment which prevents the end desired.

The wisdom in ventilating school houses with fans, propelled by power, appears when it is known that it is practically impossible to properly ventilate large school houses in any other way. This being true, and as it is further true that children must have an abundance of perfectly pure air if they are to be healthy and make highest progress in study, it follows that it is a wise economy to always use fans propelled by engines in large school houses. It is hardly possible that an educated and progressive community like Evansville contains any old fogies who would oppose surrounding school children with the very best conditions of life. Such, however, if they exist, must be patiently dealt with and taught true economy and practical business.

The State Board of Health earnestly hopes that Evansville will continue this good work

until it can be said that her every school house is perfectly sanitary.

Very sincerely yours,

(Signed) Dr. J. N. HURTY,
Secretary.

We are glad to be able to call attention to these matters of school sanitation in this way. We hope that school boards and school officers who expect to build or remodel buildings will take the pains to investigate these matters before beginning their work. Every teacher is deeply concerned in having the best of sanitary conditions as a basis for the work of instructing. Let us all urge the proper authorities to do all that can be done to provide these conditions. We are sure that Superintendent Hester and the Evansville school board deserve great credit for the work they have done in this direction.

But this is only a good start for a school. There must be teachers led by a superintendent who has proper ideals of what it is to teach. There are now about 216 teachers in the Evansville schools, counting special teachers. The Superintendent began his work by emphasizing one phase of work. While other phases were not slighted, this one received especial attention. He began by trying to create a taste for good reading, and during the first year he succeeded in placing in the schools about 2,400 copies of books for supplemental reading. The following year circulating libraries were introduced. He also had the teachers give special attention to number work during this year. The aim was to make it concrete, especially in the lower grade, by using weights, measures and other objects.

The next subject emphasized was that of language, and following this, nature work. This year expression in reading

and literary interpretation are receiving especial attention.

As a help to the teachers in this work, they called Prof. S. H. Clark to give them a course of lectures on reading and literary interpretation. It will be remembered that he is the author of the book used in the teachers' reading circle this year. The teachers feel that they were greatly helped by his lectures.

This plan of procedure shows that the Superintendent and his teachers have learned "to labor and to wait." Many persons labor enough but they become discouraged and give up because they do not see immediate results. Growth that is worth having is slow. Learn to wait.

What we saw in our visiting was not perfection but it was the disposition to attain unto perfection. Much has been gained by this quiet and wise course. Many are doing good work, some are struggling, a few are floundering. All are striving, and are "faced the right way." The Superintendent accepts for the time uncomplainingly the best that the teacher can do, but his constant aim is to help to secure the better.

With this steady pull for the higher the schools will continue to grow as they have grown in the last five years.

TEACHERS AND WOMEN'S CLUBS.

At the last State Teachers' Association a paper was read by one of the leading women in club life among the women of our own State, as well as of America. The writer lamented the fact that so few teachers are enrolled among the members of the various women's clubs. In making her investigations the writer stated that she took the school directory of Indianapolis in one hand and the list of members of the several clubs in the other,

and to her surprise she found comparatively few names on both lists. In behalf of these teachers, the Journal would like to say a few words as to the cause of this state of facts arrayed. In Indianapolis, and this was taken as a typical condition in every city by the writer above referred to, the club women are largely women of leisure. The club is more a social gathering than otherwise, and few members other than those upon program give particular study to the topic under consideration. It is not because the teacher is averse to such gathering, but it is utterly impossible for her to do much outside the daily demands of her school room duties. The first reform then necessary is a readjustment of the school affairs so that the teacher may have a little time for such helpful associations. In another way the teacher is incapacitated from attendance upon such clubs is her physical condition at the close of her daily work. The great demands made upon the teacher taxes her physical strength to its utmost almost daily, so some hours of quiet rest is imperative. The work of the school room must be the first thing in the teacher's mind. It is her life work and into it she puts her best endeavor. Nothing would be permitted to interfere with this by those in authority. The hour at which these club meetings are held practically excludes the teacher. We have noted with some care the hour almost universally falls within the regular school hours of the day, but this would lead one to conclude that since the members are generally women of leisure, the "afternoons" is the time usually set apart for all socials, receptions, etc. Two things need to be changed to make these women's clubs a greater factor for public good than they so far have attained. They need to stand upon a broader footing,

and no one should feel herself excluded on account of her social standing. Many of these clubs are so exclusive in their membership that persons feel themselves practically shut out from them should they not have a particular social standing. If these clubs were like the church, open to everyone who felt the need of their helpfulness, the first great step for their advancement would be taken. We now and then hear a cry for "fewer hours for the children," but equally imperative is the need of some readjustment of the teacher's work, so that she may mingle among her sisters in the club room, giving to them the same uplift she imparts to the children. As the Journal sees it, both the women's clubs and the teacher are too exclusive, the first by choice, the other by sheer force of circumstances. Extend the one and liberate the other and both may accomplish what neither can under the present conditions. In the city of Muncie, Superintendent Snyder has inaugurated a plan that has in it great possibilities. Many of his teachers are members of clubs in the city, and to encourage them in their attendance he relieves them of particular duties in connection with the school. The experiment has been well received, so we are informed.

WHERE TO PLACE THE MAIN EMPHASIS.

Language is, indeed, a subtle instrument of thought, and, as has been shrewdly said, is quite as able to conceal as to reveal thought. We teach that emphasis is a subtle spirit that presides over language, and is able to turn it to any desired account. It makes our words true or false, sweet or bitter. All year we have taught that the force and appropriateness of our language will depend greatly upon

where we place the main emphasis. It is not language alone which is dependent upon emphasis, but teaching takes its character from the main emphasis. Would it not be well for each of us as teachers to ask himself: "Upon what do I lay the main stress?" What ideas are central and determining in all my efforts with my class? We have observed that the several teachers in a particular grade may go over the same lesson, call attention to the same points, rehearse the same facts and find the same moral, and yet make widely different impressions because of the difference of emphasis. It is a great lesson to learn in teaching to emphasize in proportion to importance. In every lesson there are many things that are important, but there are some things of prime importance. The framework in which the narrative is set, the connection with the preceding and following events, the geography, history and figures of speech are important, but chiefly so as setting into relation the truths and spiritual principles contained in the passage. The great thing is to draw out and enforce the ideas and truths that bear upon duty and life. Here should be placed the main emphasis in study, in thought, in teaching. He is not far from a successful teacher who has a keen and correct sense of the relative importance of things. The world of books has grown too vast for us. We must be content to know and to teach a little, but let that be something which is important; something which is useful, stimulating, helpful to mind and heart; something from which we learn more of life. It is no disgrace to be a man of one idea, if the idea is large enough.

The most comprehensive question for the teacher to consider is, Where are we putting the main emphasis of our life in its total influence on the world? Whether

consciously or not, every one is putting the main stress of ambition, energy and aspiration upon some purpose or end in life. Whatever that purpose is, determines chiefly the quality and range of our influence and usefulness among the children under our tuition. Where we make ourselves strong in character-building, we shall be strong for influence and service. We can not build one kind of character in ourselves and another kind in our pupils. Where we lay the main stress upon our own lives we shall lay the main stress of our influence upon other lives. These two things—a man's formation of himself and his part in the formation of other men—go together, and we can no more separate them than we can untangle the closely-woven web of society. There are many things in teaching which are important, but there are a few things transcendently important. The formation of a character built upon the truths of sympathy and usefulness and the exertion of an elevating and helpful influence which can spring only from such a character, is an aim so high that we should lay upon it the main stress of thought and energy. If we give this truth a chief place in our minds and the main emphasis in our teaching, we shall present the most helpful view of life in a way that will be of eternal moment to the young.

THE USE OF PICTURES.

A foreigner who traveled extensively in this country said that this is a picture-loving country. He found the walls of the rough cabin in the far west adorned with cheap lithographs or with cuttings from illustrated newspapers that were as carefully studied and as fully enjoyed as were the city parlors though decorated with india-proof engravings, or costly

paintings. He makes this trite remark as the result of his observation: "A poor little woodcut may nourish the soul, while a costly canvas from the brush of one of the most famous artists of our time may simply cover the wall with an essentially valueless representation of a meaningless and non-significant scene." This one phase of this question is in no danger of too frequent restatement. There are pictures which simply fill space, attract the eye, teach no obvious lesson, subserve no high purpose, fulfill no true artistic mission; and pictures which being things of beauty are joys forever. With the growth of spirituality, ideality and culture there ought to come a power of discriminating between good pictures and bad; but certainly, it seems, that this power does not depend upon wealth, age or social standing. Whatever the field of art, whether it be the Dresden gallery or the miner's cabin, art should be something more than delineation. When we look at a picture we should see something more than lines, colors or shapes. A picture should illustrate; if possible, it should illuminate. If it does not represent a high or ideal theme, let it treat a commonplace theme in an artistic and wholesome way. If so treated, there may be shown unconscious beauty and loveliness, and therefore a divine meaning in the commonest objects. Emerson says:

"In the mud and scum of things
There alway, alway, something sings."

In art we should catch the song and not merely represent the mud and scum. At any rate, let us not debase ourselves and our friends by the association of representations, disagreeable, vulgar or injurious. Hawthorne, in the *Marble Faun*, says: "If art had not strayed away from its legitimate paths and aims, it ought to

soften and sweeten the lives of its worshipers in even a more exquisite degree than the contemplation of natural objects." We can hardly bring unpretentious pictures to so high a standard as this but we can try to use for ourselves and others pictures that have a true or beautiful character and that make for good.

CHARACTER AND CULTURE.

We are laboring with great zeal to promote the cause of culture. We educate, educate, as some one has said, but whether the result is to produce much that can be called culture is an open question. Perhaps the best criterion to be found is found in a comparison of the rising with the now adult generation. Are our young people showing graces of mind and character in more abundant measure than their parents? Are their aims higher? Is their language better? Are their manners more gentle and refined? It is not our purpose to answer these questions, but this we say, that, unless there has been an improvement in these several respects, a vast amount of educational effort has not met its full reward. More thought may have been given to the sharpening of the thinking faculties than of liberalizing the sentiments and softening the manners. We have introduced too much of rivalry into our education and represented education too much as a preparation for further rivalry in after life. If culture is not carried farther than we find it to be in certain cases, the reason is that the character, the moral nature, has not been such as to support and sustain a truly generous culture. The disciple of beauty is far from beautiful when we get a glimpse of his inner life and essential aims. He has never learned that the prime secret of all beauty in human

life lies in disinterestedness, in the ability to put self aside, and to live in causes and principles, and above all, in one's fellow beings. Another illustration of this same lack of the essential in culture is the mock enthusiasm for things that we have learned to admire as by rote, to hear the jargon of the literary and artistic coterie, and to know how little it all means as regards real elevation of character and sentiment. We need to devote more consideration than we have done to the question, What is the true ideal of human life? If we can fix upon the true ideal we can proceed to educate toward that, and our work will then be directed toward something that is an end in itself. The knowledge we impart will be held by a different tenure and applied in a different spirit. Minds would become more receptive, owing both to the superiority of the motive set before them and the higher degree of rationality that the whole system of human life and thought would assume. If we now set before us as our main object the building up of character in all its elements, we shall find our progress sure, if not rapid, and shall soon discover a deeper meaning and value for culture in our labors year to year.

GROWING BIGGER.

Recently we heard a parent express the wish that his child could stand still and be a child always. Wisely has the poet sung:

"A dreary place would be this earth
Were there no little people in it."

But we take it that the poet's interest in the children was in their being more, and knowing more and doing more to-day than they did yesterday. It is in the growth, the progress, the advances in

childhood that our chief interest in childhood lies. Not long since, a little tot of three summers, who desired to do something, was put off by his father. "When may I do it, then," was asked. "When you are bigger," replied the father. And the child, with the keen insight of childhood, answered, "Well, papa, I am bigger." It is this notion of "bigger."

that must keep us all, adults as well as the child, in the line of growth and advancement. So as we deal with children the idea of growth must be kept constantly in mind, and whatever conduces to its proper growth helps him and puts him on a plane higher to-day than the one he occupied yesterday.

EDUCATIONAL INFORMATION.

OBITUARY.

Elmer E. Griffith, associate professor of English in Indiana University, died at the home of his sister, Mrs. Sulser, Madison, Ind., February 15, 1900, of consumption. Mr. Griffith was graduated from the Vevay high school and I. U., 1885, leading his class in this institution, which was an exceptionally strong one. He taught in the high school of this city in 1885-6; from this place he was called to the superintendency of the Frankfort schools. In 1888 he was the candidate of his party for State superintendent. In 1891 he was called to the superintendency of the school for the blind in this city. In 1894 he resigned this position to study two years in Harvard. A year ago, feeling himself in failing health, he obtained a year's leave of absence for travel in the West. No material improvement came to him, so he determined to return home to die. He leaves a wife and one son who have the sympathy of his large circle of friends. Mr. Griffith ranked among the foremost educators of the day and his loss in educational circles will be keenly felt.

Mrs. Florence W. Cotton, wife of F. A. Cotton, Deputy State Superintendent, died at her home in this city February 15, of pneumonia. She was sick but four days and her sudden and unexpected death came as a great shock to her wide circle of friends. Mrs. Cotton was a lady of sweet disposition and to have known her at her

best one must have seen her in her home life. Thoroughly domestic in her tastes, she was constantly by word and attention trying to make her home an ideal one. She leaves two children, who will never fully know the tender care of a doting mother, a heart-broken husband and a large circle of friends to mourn her loss. The Journal extends to these bereaved ones and especially to Mr. Cotton its deepest sympathy in this his great sorrow.

Jas. H. Smart, President of Purdue University, died on the 21st of February, after a long illness. Mr. Smart has been one of the most prominent educators of this State for many years. He began his educational work in Indiana as superintendent of the Ft. Wayne schools in 1865. He was a member of the Indiana State Board of Education twenty-seven years and served three terms as State Superintendent of Public Instruction. He was trustee of the State University in 1883 and was six years trustee of the State Normal School. He probably did more than any other one person to make a good exhibit of the Indiana schools at the Centennial of '76. He was assistant commissioner of Indiana to the Vienna Exposition, 1878; commissioner from the United States Department of Agriculture to the agriculture congress at The Hague, 1891; president Indiana Teachers' Association, 1871; National Educational Association, 1880; American Association of Agricultural Colleges, and Experiment Stations, 1890. He

published a number of books and pamphlets, among them: "An Ideal School System for a State," "The Institute System for the United States," "Commentary on the School Laws of Indiana," "The Schools of Indiana," and "Books and Reading for the Young."

MISCELLANY.

FIFTY YEARS IN THE SCHOOL ROOM.



William C. S. Jordan, who is now finishing his fiftieth year in the school room as teacher of the Lexington school in Carroll County, was born February 12, 1830, in Rockingham County, Virginia, in the Shenandoah Valley. He started to school at the age of eight and had three miles to walk. He attended the country schools until he was fourteen, studying reading, writing, arithmetic, spelling and geography, and then took a term's work in English grammar and algebra in a town school. At this time he was called to take charge of a school some sixty miles from home, and worked twenty-six years at Williamsville and Milboro Springs.

At the solicitation of a former pupil, Mr. Jordan came to Cutler, Ind., and has labored faithfully for her people for twenty-four years. He has seen our school system grow

into its present complex organization and has been one of the main factors in working it out in his county. He has always been conspicuous in teachers' meetings and has put forth every effort to further the interests of the teachers' and young people's reading circles.

There is such a contrast in the length of time devoted to teaching by this gentleman and the majority of teachers who enter the profession that our attention is called to the fact and we look for its cause. It is no doubt true that many persons teach for a considerable period of time simply because they have got in the habit and can't break it. Others keep on teaching from the lack of something to do that will bring them more money, but there are a few who start out in the profession with a determination to accomplish an end and to stay with it as a life work until such an end is accomplished. The teacher with a goal ahead for a year's work, a month's work, for a series of lessons or for a single recitation, moves smoothly along from one point to another and is not baffled by any turn of affairs until such point is accomplished, while the one working without such purpose naturally becomes embarrassed in the presence of pupils and loses herself in the dissipation of energy. The person teaching with a specific purpose in view in every movement will be obliged to continue in the profession to preserve the fullness of her life.

Mr. Jordan expresses the thought very forcibly, for he feels what he speaks when he says, "The hardest task of my life is to say good bye to my fellow teachers and sever my relations with school work." Nothing can be of more value to the teaching profession than an earnest, conscientious, entire life devoted to it.

EARLHAM COLLEGE.

The second term of the college year will close March 22. The attendance has been considerably larger than usual and the outlook for the spring term is excellent.

Candidates for positions on the debating team are now hard at work. The inter-collegiate debate with Indiana University will be held at Bloomington the latter part of April. There is much interest in debate

and oratory among the students. A delegation of about seventy-five attended oratorical contest at Indianapolis.

The athletic interests of the college are in fine condition. The Board of Trustees have granted space for a new athletic field and it is expected that it will be ready for use with the opening of the foot-ball season next year. The field will be inclosed and it will have a quarter-mile track, grand stand and grounds for foot ball and base ball. The cost is estimated at about \$2,000.

The lecture course maintained by the college has been a great success. Booker T. Washington, Max Bendix, John Temple Graves and F. Hopkinson Smith have appeared on it and two numbers are yet to be given.

Professor Dennis, Professor Hodgkin, Dr. Brown, Professor Russell and Professor Barrett are doing considerable work in the lecture field.

Professor Moore has just received for the college museum the cranium of a fossil bison, an extinct species related to the American buffalo. The specimen is a rare one and of great interest and value. It was found near Vincennes and was secured through the efforts of Mr. Guy Middleton, of the class of '99. The museum has also received some rare coins and minerals, the gift of Miss Annie Sutton, of New York.

THE NEWCASTLE SCHOOLS.

BY A RESIDENT OF NEWCASTLE.

New Castle has a fine, imposing high school building, with wide halls, well-lighted rooms and almost perfect ventilation. Besides the high school building it has a ward school, and the time is not far distant when another will be a necessity.

Every part of the building is kept scrupulously clean, with the result that there is little serious illness among the pupils. Quite recently a public library has been established by the school trustees.

George William Curtis once said: "The key of an efficient school is not the school property nor the appropriations for maintenance, indispensable as they are. Reason, experience, the common consent of all great thinkers and all authorities upon the subject, agree that the Superintendent is the school."

Twelve years ago J. W. Wier took charge and he has brought the New Castle schools to such a high standard that they now have a reputation among the largest schools of the State. The character and strength of the schools have been greatly increased, under his able direction. He is a broad, liberal, sympathetic man, with great organizing ability, persistent in his efforts to maintain the highest standard in all his work.

Superintendent Wier is an earnest advocate of thorough training and impresses the need of it upon his teachers. He has introduced physical culture, music and drawing into all the grades during his tenure in office. A noticeable uniformity seems to exist in every department from the primary to the high school, and he has the faculty of impressing his earnestness and ambition upon his pupils. Teachers and students all seem to be strongly attached to him and feel that he is their sincere friend and honored superintendent.

A VISITOR.

BOURBON COLLEGE.

The report from the new college, Bourbon, Ind., is very encouraging. The school was organized one year ago last September. There is now under roof a large new brick building, containing eight rooms and a large chapel, to accommodate the increased attendance. The normal course is under way for spring and summer terms. J. E. Marshall is president.

FRANKLIN COLLEGE NOTES.

Rev. W. Elgin, D. D., of Akron, N. Y., has retired from the pastorate, and will give some attention to a particular field of geology. He will let the college have the advantage of his investigations.

At the last faculty club meeting, Prof. C. H. Hall gave an interesting description of his summer outing on Grand Island, Mich.

The college had the pleasure of a call from Professor Geeting, a few days since. We like to have him in our class rooms.

The library will pass the 12,000-volume mark before the issuance of the next catalogue.

The true motto for a real college is non multa, sed multum.

SPENCER COUNTY NORMAL.

The Spencer County Normal School will open June 4, 1900, at Rockport, Ind., and continue four weeks. This promises to be one of the best normals ever conducted in Spencer County. The instructors are successful and experienced teachers, and active men, engaged in practical school work, and under the direction and with the advice of the county superintendent, A. C. Huff, know exactly the needs of teachers and those desiring to teach.

The instructors will be:

County Superintendent A. C. Huff, general director and supervisor.

F. S. Morgenthaler, superintendent Rockport public schools, school management, grammar and geography.

George P. Weedman, principal Rockport high school, U. S. history, arithmetic and reading.

COVINGTON HIGH SCHOOL.

Supt. W. P. Hart, of Covington, Ind., sends the Journal his new high school catalogue. It shows a very progressive spirit of the community in high school work and, of course, is elaborate and inviting.

A new department in history has been created and Miss Deidre D. Duff, Ph. B., of DePauw, has just been elected to take charge of the department. Superintendent Hart will be remembered as the newly elected chairman of the executive committee of the State Teachers' Association, and he has promised us a rich program for next year's midwinter meeting.

JACKSON TOWNSHIP TEACHERS.

The Jackson Township teachers of Blackford County have held five institutes this year which have been highly successful. Most of the teachers of this township take the Journal and they report that it has been a great help to them in school work and institute work. These institutes have been held at Millgrove and Priam. O. P. Sample and E. E. Ferren have charge of the schools at these respective places. They are having marked success in the management of the schools.

MEETING OF PSYCHOLOGISTS.

The eighth annual meeting of the American Psychological Association was held at Yale University, Dec. 27, 28, 29. Many valuable contributions to psychology were made. Perhaps the greatest interest centered in the work of Professors Lindley and Bryan, of Indiana University, with Arthur Griffith, the mathematical prodigy. They gave demonstrations of Mr. Griffith's rapidity and accuracy in numbers, and spoke upon "The Methods of an Arithmetical Prodigy." Another valuable contribution by a former Indiana man was that of Mr. Clark Wissler, of Columbia University, on "Some Experiments on Motor Diffusion." Prof. John Dewey gave an excellent inaugural address, having for his subject "Psychology and Social Practice."

CORNELL UNIVERSITY.

The new catalogue of Cornell University shows that 1,966 students are now in residence at Ithaca, as contrasted with 1,737 last year. Announcement is made that the trustees have decided to continue the Summer Session, which was tried for the first time last year under University direction and control. The corps of professors and instructors has been raised from 38 to 52. That teachers are the chief attendants at the Summer Sessions is shown by the fact that of 423 in attendance, 344 were teachers. Of these 130 were college graduates, while more than one hundred were or had been undergraduate students of colleges.

The Nature Work, for which Cornell is unique, enrolled 111 students. This institution has a large body of trained scientists who are interested in the application of science to elementary education. Many city teachers, to whom the country was merely a name or a panorama seen from the car window, spent every afternoon from July 5 to August 16, in the fields, the woods, along the gorges or by Cayuga Lake, observing and studying the myriad forms of plant and animal life. The spectacle of University professors enthusiastically teaching primary nature work to primary teachers is one not to be seen in any country outside of the United States.

The Summer Sessions at Cornell University endeavor to supply instruction especially valuable to teachers. Thus, from two to six courses are announced in Ancient and Modern Languages, in all the Sciences, as well as in History and Political Science. The professional advancement of teachers is promoted by courses in the Science and Art of Education, and in the fundamental subjects like Psychology on the one hand, and Ethics and Political and Social Science on the other. It is also announced that a number of distinguished professors from other Universities have been invited to give instruction at Cornell during the Summer Session.

A feature of the Cornell Summer Sessions of interest to teachers, is the fact that graduates of colleges are enabled to enter upon graduate work at these periods. A year's credit may thus in time be won, without the surrender of desirable positions.

A CHANGE.

To the Editors:

My observation has been that few township trustees are "all-round men" in the performance of their duties. Where you find one who is a good schoolman, he often neglects the roads; and frequently we find trustees who take far more interest in the roads than in the schools. If he looks upon schools as being the highest test of progress he brings schools to a high standard; but if he loves good roads and fast driving, and looks upon this as the highest type of advancement, he places his energies in road building. If charity is his hobby, he looks after the poor, and sometimes the disposal of the schools is on the basis of charity. I think this is too often true, and so true that it sometimes is an element in the selection of a trustee.

I see no valid reason why the township assessor should not be given charge of the roads and the poor, leaving the trustee to look after schools only. The assessor works in the duties of his office about two months in the year. These duties call him over almost every mile of road in his township, and into almost every home. His judgment of valuation must be good or he is unfit for assessor. He knows, or has the opportunity

of knowing as well as any man, the worthy objects of charity, and every condition of the public highway, with its interests, its advantages and its damages. Why not give him charge of such duties, increasing his salary as much as trustees are paid for the same work, and decreasing the salary of the trustee accordingly, and then let the people combine these qualities when they select an assessor. They would then be free to select a schoolman for trustee whose sole public duty would be to look after the interests of the schools, and they would more often select a man whose highest ambition was not to gravel a mile of muddy road past his farm, but to give to the young people of his township the best teachers, the best schools and the best school facilities that his money and talent could supply.

T. E. S.

Seymour, Ind.

ANTIOCH COLLEGE.

Recently we had the pleasure of visiting Antioch College, located at Yellow Springs, Ohio. Readers of the Journal will remember that this is the college that called W. A. Bell, former editor of the Journal, to be its President.

The buildings are located in a beautiful campus. While they are old, they are very comfortable and clean. The President's residence is just outside the campus. It is a large and commodious building. Horace Mann was its first occupant.

Buildings and a campus do not make a college.

The faculty of this college, consisting of earnest men and women, headed by, the President, Mr. Bell, who is a great friend and believer in the principles upon which the institution is founded, are working with a body of intelligent young men and women who are in attendance because they are seeking an education. They are thoroughly in earnest, and it is inspiring to any teacher to work with such young people. We believe that the President and his faculty are doing a great work for these young people and the cause of education.

He who does not teach the stupid boy is no teacher, just as the man who can not find his way in lanes and by-paths is no guide.

EAST CHICAGO'S HIGH SCHOOL BUILDING.

We had the pleasure of being present at the dedication of the new high school building on February 2d. It was indeed a great day for the children and patrons; both the day and the occasion will long be remembered. The building is a beautiful structure and its beauty does not mar its arrangements for lighting and heating. The great interest in high schools is shown by comparing the attendance of one year ago, which

READING CIRCLE.

We take the following from a circular letter recently sent out by the Secretary of the Reading Circle Board to the county superintendents:

1. Each pupil that reads one or more of the Y. P. R. C. books in a given year is a member of the Circle for that year, and should be presented with a membership certificate. When the certificate shows that the person named thereon has been a member of



EAST CHICAGO HIGH SCHOOL.

was 20, with that of to-day, which is 54. President Parsons delivered the principal address of the day, and the editor of the Journal was asked to talk to the children. In the evening a lecture to the general public was given by Dr. Austin K. DeBlois, of Illinois, which was a rare treat to the audience. Superintendent Mather is at the helm here and his work is earnest and effective.

Any fool with knowledge can pour it into a clever boy; but it needs the skilled workman to be able to teach.

the Circle for four years, he will receive a diploma upon presentation of the certificate to the county superintendent.

2. We have a large supply of membership certificates and diplomas, and will send them to county superintendents in any quantity desired, by prepaid express.

3. Teachers holding two credits (one professional and one general culture) are exempt from the examination in the Science of Education (Theory) and Literature, on application for county or State common school license during the year in which the credits

were received. The credits made in the Teachers' Reading Circle examination July 15, 1899, will exempt the holders from examination in the above named subjects throughout this year, including the August examination, 1900.

Teachers holding eight credits (four professional and four general culture) are entitled to diplomas. These diplomas exempt the holders from examination in the Science of Education (Theory) and Literature, on application for professional, life State, and State or county common school license.

4. Teachers holding eight or more examination credits should send their credit statements to the Secretary of the Board, who will forward the diplomas by return mail.

PERSONAL.

Adelaide Thale, of this city, a graduate of the State Normal, goes to Vincennes, as teacher of English in eighth grades. Miss Thale is well equipped for her work and we feel sure of her success.

Horace Ellis, of West Lafayette, has been chosen superintendent of the Franklin schools for next year. He goes well equipped for his work, and the people will find him a very enthusiastic and capable man. The Journal extends best wishes to him in this inviting field.

C. H. Drybread, principal of the high school at Hartford City, has succeeded to the superintendency made vacant by the resignation of Superintendent Beard, who goes to Marion to enter business. Superintendent Drybread formerly taught in Anderson high school. His new labors will prove his worth even more than formerly.

Miss Lulu Soms, teacher of English in the Hartford City high school, asked for a leave of absence for a year to study in Indianapolis University, but she was called home early in the year on account of the serious and what promises to be a fatal illness of her father. She is devoting her whole time to him, thus comforting him in his great affliction.

Superintendent C. M. McDaniel, of Madison, the newly elected member on the R. C. Board, has made a good start. The Journal knows him to be an untiring worker, and this will help him greatly, as the reading done must be carefully done to insure a proper choice of books. A large majority of the members of this board are careful and painstaking in their selection of books.

Robert L. Kelly, who has been connected with Indiana schools for a number of years, particularly at Plainfield, where he held the principalship of Central Academy for seven years, is at present a fellow in the University of Chicago, where he has been pursuing work in the departments of philosophy and political science for two years. He has become identified with the philosophical and pedagogical departments of the University as practical psychologist in the Chicago Physiological School, whose purpose is the training of backward and nervous children, and has also been placed in charge of the psycho-physical work of the Dewey Elementary School, besides taking an active part in the pedagogical and other clubs of the University.

EDITORIAL MENTION.

The official local time tables of the Pennsylvania lines have reached our table, in a new dress and bearing a new title. It is very attractive and the coloring particularly is artistic. These time tables are so full and complete that they are indispensable to the traveling public.

The Western Drawing Teachers' Association will hold its seventh annual meeting at Grand Rapids, Mich., May 9, 10 and 11, 1900. This meeting should be well attended.

A GOOD MOVE.

The parents' and teachers' clubs of the several school districts of Connersville and vicinity have united. The identity of the individual clubs remains the same as before but federation serves to unify their efforts.

We learn from Superintendent Rowe, of Connersville schools, that in addition to the regular grade and general teachers' meetings

for the year, they arranged for four public school meetings during the year. Three of these have programs made up of teachers and interested citizens, and one from abroad. Two of these meetings have been held and were very successful. In the first one "The Correlation of the Educational Forces of the Community" was discussed. The second was an address by Dr. Sherman L. Davis that pleased everyone who had the good fortune to hear it. His subject was, "The Child from One to Five, Ten and Twenty." "Morals in the Schools" is the topic for the third meeting, and "Manual Training" for the fourth.

BACK NUMBERS.

We have a call for back numbers of the Journal. Anyone having any to dispose of will please write us stating what numbers he has and what his price is.

LARGEST VOLUME.

We have received the volume of the proceedings of the Los Angeles meeting of the National Educational Association. It is the largest volume the Association has ever issued, and they have been compelled to issue two thousand more copies than ever before to meet the demand. It is one of the most valuable volumes that the Association ever sent out. It contains the three special reports made at this meeting, viz., Report of the Committee on College Entrance Requirements, Report of the Committee on Normal Schools, Report of the Committee on Relations of Public Libraries to Public Schools.

No wide-awake teacher will fail to examine this volume carefully. It contains the best thoughts of the best educational people on the subjects treated.

TWO GREAT MEETINGS.

The two most important teachers' meetings of the State will be held during March and April. The Northern Indiana Teachers' Association will hold its annual meeting at Logansport on Thursday, Friday and Saturday, March 29th, 30th and 31st. The Southern Indiana Teachers' Association will hold its annual meeting at Evansville, Thursday, Friday and Saturday, April 5th, 6th and 7th.

Each of these associations has an attend-

ance of more than two thousand members who pay their enrollment fees. This produces an income sufficient to employ school men and women of national reputation to lecture during the sessions of these meetings. It is an inspiration to listen to such men and women; and no teacher can afford to miss this rare opportunity to hear them.

Superintendent Justin N. Study, of Fort Wayne public schools, is the new President of the Northern Association. Oscar T. Carson, President of the National Educational Association at Columbus, Ohio, and Dr. David Starr Jordan, President of Leland Stanford, Jr., University, Stanford, California, have been secured to give lectures at each session of the "General Association."

Mr. Carson's subjects are "The Rise of the Coming Man," "Originality in the Teacher," "Relation of the Superintendent to Teachers," "Teaching Pupils to Help Themselves," "Tact in the School Room." Dr. Jordan's subjects are: "The Blood of the Nation," "Agassiz as a Teacher," "The Philosophy of Despair," "The Strength of Being Clean," "Putting Away Childish Things."

The program for the sections indicate that there will be many profitable discussions in these meetings.

The Central Passenger Association grants one fare for the round trip from all points in Indiana north of Indianapolis, and from points in the southern tier of counties in Michigan. Tickets on sale March 28th and 29th, good for return passage to and including April 1, 1900.

The Barnet—Headquarters for the Executive Committee—\$2. Second and Broadway.

Board and rooms in private houses, \$1 per day.

For information and assignment, write

Supt. A. H. DOUGLASS,
Logansport, Ind.

The Southern Indiana Teachers' Association promises a rare treat to its members. The new President is Supt. W. H. Wiley, of Terre Haute, the oldest superintendent in point of service in the State, but whose heart is still full of love for the children, whose inaugural address will be "The Teachers' Opportunity." Dr. John Dewey, of the University of Chicago, will speak on "The Forma-

tion of Habits" (two talks), "Pending Educational Problems," "A Working Scheme of Correlation," and "The Place of the Imagination in Education." Miss Sarah Arnold, of Boston, will discuss "Essential Principles in Teaching," "The School as a Preparation for Citizenship," "The Child's Side of Things," "In School and Out," and "Nature Study in the Grades." Prof. Elwood W. Kemp, *Terre Haute*, discusses "History in the Grades."

The exercises of the general association will be enlivened with special music and gymnastic exercises, furnished by the pupils of the Evansville public schools.

The several sections have prepared excellent programs, the subjects all being upon the live questions of the day.

Satisfactory arrangements will be made for both hotel and railroad accommodations.

The above has been taken from advanced sheets of the general programs. For both associations programs will soon be mailed to all members.

BUSINESS NOTICES.

The State Life Insurance Company of Indianapolis, wrote \$837,970 in new business last year. It is coming to the front as one of the most reliable insurance companies, as is shown by the certificate of State Auditor Hart, that it has now on deposit with the State of Indiana securities for the benefit of all its policy holders to the amount of \$300,000. The growth of the company has been remarkable and it should still enjoy as it has enjoyed the confidence of the public.

SPECIAL VACATION TOUR

Under the personal supervision of V. C. Ward and G. L. Spillman, of Danville, Ind., who is a native of Switzerland. The tour will be made in forty-seven days, leaving New York by the Hamburg-American Line twin screw mail steamer "Graf Waldersee" (13,000 tons). The following places will be visited: Visit Hamburg, Berlin, Cologne, the Rhine, Mayence, Heidelberg, Munich, the Passion Play at Oberammergau, Zurich, Lucerne, Brunig Pass, Interlaken, Berne, Paris, "the Exposition," Rouen, Dieppe, New Haven, London and Plymouth. Cost

of tour, \$325. Write to G. L. Spillman, Danville, Ind.

Teachers will be much interested in the announcement of Vories's Business College in this issue. It has had such a phenomenal success that it is now the second largest business school in the United States. Mr. Vories is the author of several books in his line of work, and, as he has copyrighted his methods, they can not be had in any other school.

Angola, Feb. 15, 1900.

Dear Journal—I get letters saying: How can you offer a ten-weeks' term of school for \$27. Let me answer by saying: It is done by every one who has a part, from the cook up to the faculty, giving full value for every cent of money received. There is no speculation in it. We do it, and do it well.

L. M. SNIFF,

President Tri-State Normal, Angola, Ind.

THE SUMMER SESSION AT INDIANA UNIVERSITY

Indiana University has issued its announcement of the courses of instruction in the spring term, summer session and biological station.

The summer school of the University began its existence in 1890 with an attendance of forty-one. Since that time it has steadily grown until last year it enrolled two hundred and forty-one. While it has been conducted in the University buildings it has been a private affair. Beginning with this year it will be a part of the regular university work and will constitute the first term of the year. The fees have been greatly reduced, special courses will be offered to teachers, and in most cases the work will be in charge of the respective heads of the departments.

The various departments will be in charge of the faculty as follows: Greek, Prof. Horace A. Hoffman; Latin, Prof. Harold W. Johnston; French, Dr. Colbert Searles; German, Prof. Gustav E. Karsten; English, Prof. Guido H. Stempel and Mr. Hamilton B. Moore; American History and Politics, Prof. James A. Woodburn; Economics, Prof. Ulysses G. Weatherly; Psychology and Pedagogy, Prof. William Lowe Bryan and

Prof. John A. Bergstrom; Mathematics, Prof. Robert J. Alej; Physics, Prof. Arthur L. Foley; Chemistry, Prof. Louis S. Davis; Nature Study, Prof. D. W. Dennis, of Earlham College; Law, Profs. W. R. Rogers, G. L. Reinhard and W. E. Clapham. The summer session begins Wednesday, June 20th, and ends Tuesday, July 31.

Prof. Robert E. Lyons is the director of the biological station this year and he will have charge of the work in bacteriology. The other members of the station faculty are: D. M. Mottier, professor of botany; James R. Slonaker, assistant professor of biology; William J. Moenkhaus, instructor in zoology; Frank M. Andrews, instructor in botany; Leo F. Rettger, assistant in bacteriology and embryology; Earl Ramsey, assistant in zoology. The work at the station will be divided into two terms. The first term will begin June 26, and end July 27; the second term will begin July 30 and end August 24.

The work of the spring term will begin at the University Tuesday, April 3d. In addition to the regular work, special courses have been arranged for teachers. The announcement gives full particulars; this will be sent free of charge to any who make application.

BOOKS AND MAGAZINES.

Bird-Lore (The Macmillan Co.) for February, the first number of Volume II, publishes a list of over fifty prominent ornithologists, residing throughout the United States and Canada, who have consented to assist students of birds by responding to their requests for information. The same issue also contains an obituary and full-page plate of the late Elliott Coues; "Methods of Teaching Ornithology at Oberlin College," "Every-day Study of Birds for Busy People," "Where the Grebe Skins Come From," Abbott Thayer's "Appeal to Bird-Lovers," and other articles and illustrations of interest to bird-lovers.

"The Nervous System of the Child, Its Growth and Health in Education" is the title of Dr. Francis Warner's latest book. It is a

companion book to his "Study of Children and Their School Training," and like that book is one which can be read with profit by doctor, teacher, medical health officer, or mother. It is free from technicalities, while at the same time the result of the most minute technical knowledge and research. The Macmillan Co., New York.

The February issue of The International Monthly contains the following articles: "Art as a Means of Expression," by W. J. Stillman; "Japan's Entry into the World's Politics," by Garrett Droppers; "The Opera in America and Europe," by H. T. Finck; "The Future of the Short Story," by E. Charlton Black; "Recent Work in the Science of Religion," by C. H. Toy.

"Side Lights on South Africa," by Roy Devereux. Chas. Scribner's Sons, New York.

The Boer war renders this interesting book especially timely. The author traveled extensively in South Africa, visiting Cape Town, Johannesburg, Pretoria, Mafeking, Kimberley, Durban, Pietermaritzburg, Lurenco Marques, and other important points northward and eastward. The book gives much useful information concerning industry and government. It is a charming account of life in a strange and fascinating land.

"School Sanitation and Decoration," by Prof. Severance Burrage of the Department of Sanitary Science in Purdue University, and Mr. Henry Turney Bailey, State Supervisor of Drawing in Massachusetts. D. C. Heath & Co., Boston and Chicago.

In this book are found practical suggestions upon the location and construction of school buildings, the principles of ventilating, heating and lighting, sanitary arrangements, school furniture, etc.

The chapters devoted to the school room and its decoration enable teachers and school officers to choose that which is best, both for permanence and esthetic value. The book contains more than one hundred illustrations, many being of subjects suited to decorate school rooms. This book should be read by every teacher and school officer.

QUESTIONS AND ANSWERS.

SCIENCE OF EDUCATION.

(Applicant to answer any five questions.)

1. Explain what is meant by the culture-epoch theory.
2. Give your opinion as to the validity of the culture-epoch theory.
3. In "Organic Education" the author states some important differences between the theory therein advanced and the culture-epoch theory as applied by Ziller and his followers in the German schools. What are these?
4. Explain what is meant by the "organization" method of using the material supplied.
5. What do you understand by the "concentration" method of using the material? Illustrate.
6. Describe in general terms the education of ancient Greece.
7. What elements, if any, in the education of ancient Greece should be incorporated in all modern systems of education?
8. What were the leading characteristics of the education of Sparta?
9. What features, if any, of Spartan education are worthy to be included in modern education?
10. Name two or more of the great teachers among the Greeks and state something of their methods of instruction.

Answers.

1. "According to the theory of *culture epochs*, the child, in its growth from infancy to maturity, is an epitome of the world's history and growth in a profoundly significant sense for the purpose of education. . . . What relation the leading epochs of progress in the race bear to the steps of change and growth in children, has become a matter of great interest in education. The assumption of the *culture epochs* is that the growth of moral and secular ideas in the race, represented at its best, is similar to their growth in children, and that children may find in the representative historical periods select materials for moral and intellectual nurture and a natural access to an understanding of our present condition of society." (See "McMurry's General Method," page 123.)

2. It seems to be consistent and reasonable that a child would be both interested and benefited by becoming acquainted with that historical epoch which corresponds to his own period of growth. The theory is supported by several well-known authorities. (See "General Method," page 124.)

3. "In the first place the 'culture epochs' used in the foreign schools confine themselves largely to German and biblical history, whereas any American system must of necessity accommodate itself to the breadth of our national inheritances, and to the non-sectarian principles of our schools.

"The second great divergence of the plan here proposed, from the German system, is found in the essential differences between the organization and the concentration methods of using the material provided. The German schools carry on simultaneously several distinct lines of work; for instance, German and biblical history, nature study, drawing, language, arithmetic or number, establishing between them, in the teaching, some connection, either artificial or natural, for the sake of unity. The present method, on the other hand, starting from a certain period of race development, successively differentiates this period into all its vari-

ous interrelated activities, industrial, artistic, scientific, mathematical, political, social, religious, and then, by comparison with other periods, unifies it again into what seems to be its fundamental idea or central principle, which, as such, has always an ethical bearing," etc. (See "Organic Education," pages 13 and 14.)

4. (See statement in regard to the "German schools" in preceding answer.) The organization method of using the material so connects related ideas, no matter in what lines of work they may exist, that they are grasped with ease by the mind, and remembered in consequence of their interrelation with other ideas. In using material so organized the teacher is provided with important matter, vitally and fundamentally in touch with the usual curriculum, and the lessons are so enriched thereby that retention is insured.

5. (See statement in regard to the "present method" in answer 3.) For illustration see "Organic Education," page 14.

6. Throughout Greece generally, the youth were trained in private schools. Only boys received education. In the nursery he was taught the beautiful myths and stories of the national mythology and religion. Sometimes he was led to and from school by an old slave, called a *pedagogue*, which in Greek means a guide or leader of boys—not a teacher. His studies were grammar, music, and gymnastics, the aim of the course being to secure a symmetrical development of mind and body alike. Grammar included reading, writing and arithmetic. Music embraced a wide range of mental accomplishments and trained the boy to appreciate the masterpieces of the great poets. The Grecian youth had the advantage of the educational agencies of the schools of the philosophers, the debates of the popular assembly, the practice of the law courts, the masterpieces of a divine art, the religious processions, the Panhellenic games, and the representations of an unrivaled stage.

7. All of them mentioned in answer to 6.

8. In Sparta, education was chiefly gymnastic and was a state affair. At seven, the education and training of the youth were committed to the charge of public officers, called boy-trainers. The aim of the entire course, as to the boys, was to make a nation of soldiers who should despise toil and danger and prefer death to military dishonor. The mind was cultivated only so far as might contribute to the main object of the system. Reading and writing were untaught, and the art of rhetoric was despised. Only martial poems were recited. The body was carefully trained. In leaping, wrestling, and in hurling the spear, the Spartans acquired the most surprising nimbleness and dexterity; and above all things else the Spartan youth was taught to bear pain unflinchingly.

9. The gymnastic training, so modified as to contribute directly to a different aim—the possession of a sound body, as a necessary basis for a sound and vigorous mind.

10. Socrates. His method was to draw out his listeners by a series of ingenious questions; it has received the designation of the "Socratic method or dialogue." Plato used the same method in his writings. Aristotle taught mainly by the lecture method, and in nature study, by observation and investigation.

ARITHMETIC.

(Answer any six, not omitting No. 2.)

1. What is meant by picturing a problem? Is this a valid method? If so, when?
2. Add 611,043; 626,915; 537,454; 442,014; 780,894; 122,993; 726,915; 484,472; 705,806; 560,247; 827,922; 439,706; 364,399; 671,361; 225,163.
3. At a forced sale a bankrupt sold his farm for \$3,642.00, which was 18 per cent. less than its real value. What was the value of the farm?
4. What principal will at 7 per cent. simple interest gain \$53.08 in 1 yr., 6 mos., 6 days?
5. In reckoning, what advantage has the Arabic over the Roman notation?
6. A young man's salary increased one-third every year; his expenses each year were one-third of his salary, and at the end of four years he had saved \$1,050.00. Find his last year's salary.
7. $x^2 + y^2 = 41$
 $x + y = 9$
Find the values of x and y .

Answers.

1. By picturing a problem is meant the representation of its elements so as to be visible to the physical eye; it presents to children a concrete basis for their thoughts, which thereby become clear. It is valid as long as it is necessary. For some children it should be used for a longer time than for others. When the teacher finds the pupils able to give clear and correct solutions, then such help should be discontinued.

2. The sum is 8,127,014.

3. \$1,642 is 82 per cent. of its value; 100 per cent. = \$8,100.

4. $(P) \times \frac{100}{100} \times \frac{112}{100} = \53.08 ; $P = \$499.968 +$.

5. The Arabic notation has the advantage of the use of zero, which renders possible the distinctive feature known as place value; also, the use of the decimal point, which renders possible the representation of value below unity.

6. Let l represent his salary for the first year; then $1 + \frac{1}{3} = \frac{4}{3}$ is his salary the second year; and $\frac{4}{3} + \frac{1}{3} = \frac{5}{3}$ his salary third year; and $\frac{5}{3} + \frac{1}{3} = \frac{6}{3} = 2$ his salary fourth year; $1 + \frac{4}{3} + \frac{5}{3} + 2 = \frac{14}{3}$, total of salaries for the four years; $\frac{1}{3} \times \frac{14}{3} = \frac{14}{9}$, total expenses for the four years; $\frac{14}{9} - \frac{14}{9} = 0$, savings for the four years; $\frac{14}{9} = \$1,050$; $\frac{1}{9} = \$3$; $\frac{4}{9} = \$3$; $\frac{2}{3}$ (salary fourth year) = \$376, answer.

7. $x^2 + y^2 = 41$ (1).

$x + y = 9$ (2).

$x^2 + 2xy + y^2 = 81$... (3) = (2) squared.

$2xy = 40$... (4) = (3) - (1).

$x^2 - 2xy + y^2 = 1$... (5) = (1) - (4).

$x - y = 1$... (6) = $\sqrt{(5)}$.

$x + y = 9$... (2).

$2x = 10$ (7) = (6) + (2).

$x = 5$

$2y = 8$ (8) = (2) - (6).

$y = 4$

PHYSIOLOGY AND SCIENTIFIC TEMPERANCE.

(Any seven.)

1. What constitutes the internal ear?
(b) Describe the cochlea.
2. Can a school room be properly heated by a stove? Why?
3. Why should we not attempt severe work immediately after a meal?

4. What veins enter the heart and at what places?
5. Describe a muscle. How is it attached?
6. Define a cell, and describe a typical one.
7. How does the percentage of alcohol in whiskeys and wines compare?
8. Name three effects of alcohol upon the mind.

Answers.

1. The internal ear or labyrinth is composed of the cochlea, semi-circular canals, and the vestibule.

The cochlea is a minute spiral canal of $2\frac{1}{4}$ turns, situated in front of the vestibule. It has the main filaments of the auditory nerve distributed upon its walls and contains the organ of Corti, consisting of minute rods. It is composed of osseous tissue and is the essential organ in the correct appreciation of sound.

The semi-circular canals are the three curved passages behind the vestibule, each more than a half circle; two open into the vestibule at both ends; the third at one end, the other end opening into one of the other canals. These canals are composed of osseous tissue and assist, in some way, the correct appreciation of sound.

The vestibule is a small, irregular cavity, the central chamber of the labyrinth. It communicates with the middle ear by the fenestra ovalis and also has an opening below into the cochlea. It has in its posterior part five openings into the semi-circular canals. It is composed of osseous tissue and serves to contain the filaments of the auditory nerve.

2. No, because it heats the air in the upper half of the room more than in the lower half. In testing with a thermometer, a room so heated, it will be found that the temperature of the air near the floor is 20 degrees lower than the temperature of the layer of air at the height of four feet from the floor. The usual method of ventilation, by creating a current diagonally across a room, from the lower part of one window to the upper part of an opposite window, carries out more warm air than cold air. Generally when the upper part of the body is comfortable the feet are cold.

3. Because the most important duty of the body at that time is to attend to the contents of the stomach. This means a strong diversion of the blood current, through nervous influence, towards the lining and coats of the stomach. If, at this time, energy is put forth at some other part of the body, the circulation tends to increase and grow stronger there, and the struggle between the two localities begins, each trying to obtain the chief attention and support of the nervous system. This struggle is very injurious and the action becomes poor and inefficient at each place. (See text-book.)

4. The coronary vein is within the tissue of the heart itself, and opens into the right auricle. The two venæ cavae also empty into the right auricle. The four pulmonary veins from the lungs empty into the left auricle.

5. A single separable portion of the lean meat is called a muscle. It generally converges or tapers at each end into a thin membrane or a small white cord called a tendon. Some muscles are attached at each end to some soft part, as the skin. Some have one end attached to bone, and the other to some soft part, as, in the face. Others have both ends attached to bone.

6. A cell is a nucleated mass of protoplasm, and is the simplest form of tissue. A single cell can be seen only with the help of a microscope. In a fully formed cell we find three parts: (1) a *cell body* made up of a soft

granular substance; (2) a smaller and less granular cell nucleus imbedded in the cell body; and (3) a tiny dot, the nucleolus, lying in the nucleus.

7. The percentage of alcohol in whiskeys ranges from 38% to 54%. The percentage of alcohol in wines ranges from 8% to 19%.

8. Alcohol produces an artificial insanity, in which, according to the quantity taken, the various types of mental diseases are distinctly manifest. The perceptions are bewildered, and sleeplessness, loss of memory, delusion, clouded reasoning power, and benumbed moral sense follow in the train of alcohol drinking.

GRAMMAR.

(Any seven, not omitting 8, 9, and 10.)

He usually divided his time into three equal portions: One was employed in sleep, and the refectio (refreshment) of his body by diet and exercise; another in the dispatch of business; a third in study and devotion; and, that he might more exactly measure the hours, he made use of burning tapers of equal length, which he fixed in lanterns.—David Hume.

1. Classify the clauses in the above selection.
2. (a) Give three modifiers of "divided." (b) Two of "might measure."
3. Select four transitive verbs and give the mode and voice of each.
4. Name (a) four adjective phrases; (b) four adverbial phrases.
5. Give the syntax (case and reason) of (a) sleep; (b) another; (c) length; (d) which.
6. Name the connectives and tell what they join.
7. State what each of the following modifies: (a) exercise; (b) devotion; (c) more exactly.
8. Why do children oftentimes regard composition writing an irksome task? How may it be made a pleasing one?
9. What is the truly philosophical way to learn to speak and to write correctly?
10. Write with the same care that you would wish pupils to exercise not less than one hundred words on one of the following topics:
 - (a) The physical geography of this county.
 - (b) A visit to the capitol at Indianapolis.
 - (c) The story of the "Great Stone Face."

Answers.

1. The whole selection consists of two co-ordinate clauses:—

First. He usually divided his time into three equal portions:

- (a) One was employed in sleep, and the refectio (refreshment) of his body by diet and exercise;
- (b) another.....in the dispatch of business;
- (c) a third.....in study and devotion; and—

Second. He made use of burning tapers of equal length:

- (a) that he might more exactly measure the hours,
- (b) which he fixed in lanterns. ["which" refers to "tapers."]

In first, (a), (b) and (c) are subordinate clauses of equal rank; the subject of each is *portion* understood; and the subjects combined are in opposition with "portions."

In second, (a) is an adverbial clause modifying "made;" and (b) is an adjective clause modifying "tapers."

2. (a). (1) usually; (2) time; (3) into three equal portions. (b). (1) exactly; (2) hours.
3. (a) divided—active, indicative; (b) might measure—active, potential; (c) made—active, indicative; (d) fixed—active, indicative.

4. (a) of his body; of business; of burning tapers; of equal length.

- (b) into three equal portions; in sleep; in the dispatch; in lanterns.

5. (a) "sleep" is in the objective case, object of "in;" (b) "another" (if regarded as a substantive) is in the nominative case, subject of *was employed* understood; (c) "length" is in the objective case, object of "of;" (d) "which" is in the objective case, object of "fixed."

6. "and" (after the word "devotion") joins the two co-ordinate clauses (see answer to 1); "and" (after "sleep") joins the two phrases "in sleep" and (in) "the refectio;" "and" joins "diet" and "exercise;" "and" joins "study" and "devotion;" "that" joins "he might, etc." to "made;" "which" joins its clause to "tapers."

7. (a) "exercise" is part of a phrase that modifies "refectio;" (b) "devotion" is part of a phrase that modifies *was employed* understood; (c) "more exactly" modifies "measure."

8. Because (a) they are inexperienced; (b) they are given unsuitable subjects; (c) they have not been properly and gradually led and trained to overcome its difficulties; they are not full of the subject. It may be made a pleasing task by properly and gradually leading and training them to overcome its difficulties; by getting them full of the subject; by using suitable subjects.

9. We learn to speak by speaking, and we learn to write by writing; in each case correct forms must be so thoroughly and frequently used that they will become habitual.

GEOGRAPHY.

(Any seven, not omitting 8 and 5.)

1. Discuss fully "Trade on the Ohio River."
2. What is meant by the rotation of crops?
3. How did the United States come into the ownership and control of Hawaii?
4. Write fully upon the products of the Philippine islands.
5. Why are there so few cities and towns on western plains?
6. State, in round numbers, the annual output of gold in the United States.
7. What importance do you attach to the keeping of a daily weather record in the school?
8. In making a cabinet of minerals or soils the collecting is more important than the collection. Discuss.
9. Discuss Louisville as a trade center.
10. Give reasons for the study of Seven Little Sisters in the public schools.
11. How may pupils see the rotation of the earth?

Answers.

1. Trade on the Ohio river has been much lessened of late years by contiguous railroads, yet it is quite extensive. Millions of bushels of coal every year are floated down from Pittsburg to Cincinnati, Louisville, Evansville, and many way places. To these places corn, hay, wheat, hogs, whiskey, and tobacco are shipped from way points inconvenient to railroads. These places receive their "store" goods also by boat. Most of the tobacco goes to Louisville. Rafts of saw-logs are floated out of the small tributary streams and taken to the large saw-mills. From the South are brought

cotton and molasses. Boats take down the river immense amounts of furniture, farm implements, and machinery, and return with cargoes of cotton, sugar, and molasses.

2. By the rotation of crops is meant the changing of crops in successive years to take advantage of the fact that different crops absorb different constituents of the soil. When these constituents have been exhausted they must be renewed by fertilization.

3. On January 16, 1893, the native monarchical government was overthrown by a *coup d'état* planned by the white legislators and ministers in immediate control. The dissatisfaction with the native monarchy arose from the continual opposition of the Queen to progressive measures, and from an attempt to amend the constitution so as to return to the ancient ways and restore the natives to power. Within five days after the formation of the new government a commission of American and English Hawaiians was on its way to Washington to ask for annexation to the United States. On February 1 the provisional authorities at Honolulu made formal request of Mr. John L. Stevens, the minister resident, that for the security of life and property he should place the government under the protection of the United States. This was accordingly done, and his act received the approval of the Washington government, with due caution as to any impairment of Hawaiian independence. A treaty of annexation was signed by the representatives of the two governments on February 14, and on the next day the treaty was transmitted to the Senate. At the close of the session it was still unratified. On March 9, five days after his inauguration, President Cleveland requested the return of the treaty to the Department of State, which was promptly ordered. A few days thereafter Col. James H. Blount, an ex-Congressman from Georgia, was dispatched by President Cleveland as special commissioner to the islands to ascertain the probable advantages and disadvantages of annexation and the sentiment of both whites and natives thereto. He sailed from San Francisco on March 20 and soon after his arrival gave instructions for the withdrawal of the U. S. marines from the city, and for the hauling down of the American flag from the headquarters of the provisional government. Mr. Blount's report, which was made public in November, 1893, was of such a character as to dispel all hopes for the success of any policy of annexation during President Cleveland's administration. In the meantime the status of the provisional government had changed by proclamation, July 4, 1894, to that of an independent republic; the recognition of foreign powers was freely accorded, and the foundations of permanent government deeply laid. A second treaty on annexation was negotiated and transmitted to the Senate on June 16, 1897. The two-thirds majority necessary to ratify a treaty could not be obtained. The treaty was therefore withdrawn and a joint resolution substituted, which would require but a majority vote for passage. This resolution passed both houses and was signed by the President on July 7, 1898.

4. Besides the rocks of modern volcanic origin, coral reefs, and coralline limestone, the geologist here finds gneiss, schists, and other metamorphic rocks; and in the north of Luzon there are granites, stratified limestone, conglomerates, and beds of marl. Two large coal fields are known to exist, one in the southern part of Luzon, the other occupying the western slopes of Cebu and the eastern slopes of Negros. Gold has been found in the

more mountainous and inaccessible districts. In the northern part of Luzon copper is abundant. Iron ore of an excellent quality occurs in Luzon and the smaller adjoining islands. Lead and mercury have been discovered, but nowhere in large quantities. Great deposits of sulphur exist in the neighborhood of some of the extinct volcanoes.

The forests of the Philippines contain a variety of trees, many of which are of great value. Among those common to other parts of the world are cedar, ebony, ironwood, logwood, teak, and others equally familiar. Besides these there are hundreds of varieties that are found nowhere else. The cocoanut palm flourishes everywhere, and every part of it is utilized by the natives. Bamboos, sometimes growing to a height of fifty feet, are abundant; canes, rattans, and other varieties of the calamus family are found in the forests, and these are made to serve a great variety of purposes. Mangoes, jack-fruits, medlars and all kinds of Malayan fruits grow in profusion.

The most important agricultural products are tobacco, Manila hemp, sugar cane, and coffee. The finest sugar comes from Panay. Rice is extensively grown, and is the principal food of the natives. The cacao bean grows luxuriantly. Indian corn is cultivated to some extent. Other agricultural products include cotton, pepper, ginger, and vanilla.

5. The development of cities and towns depends upon large areas of adjoining fertile country with a climate that does not permit crop failure; (2) upon facilities for commerce, either by water or rail. The lack of rainfall on the western plains limits their agricultural productions to small irrigated areas. As but little is given to the world by these plains, they receive but little in return.

6. About \$35,000,000.

7. The keeping of a daily weather record in the school will make the pupils observers of things of everyday occurrence, train the habits of observation and of drawing logical conclusions from a series of observed facts. But this work has no special merit to give it precedence over the many other tasks which give the same training. Classes in physical geography can use the data supplied by these observations to great advantage.

8. The *collecting* is done for the sake of the *activity* required and not for the sake of the collection. A good collection might be purchased. The laboratory method of presenting any science trains the reasoning faculties, gives the pupil the power of accurate observation, and the habit of careful attention to details. Information may be obtained from text-books. The collection may be destroyed or the facts of the science forgotten, but the method of the mind operation will remain as part of the character developed.

9. Louisville is a locality possessing many advantages as a trade center. Its position on the Ohio river, opposite a rich section of Indiana, makes it a gateway to the heart of the South. Shipments going from north to south, or from south to north, within large limits in each section, pass through this city. The United States government has constructed a canal around the "Falls," and immense quantities of freight are carried through it yearly. The adjacent country is a large, fertile region, and contributes much to the prosperity of the city.

10. This book treats of seven little girls living in different parts of the world, and belonging to different

people. The home life, habits and customs of each are very interestingly told, and the stories in a general way furnish much valuable material for elementary geographical work. It is all woven in so naturally with the lives of the "Sisters" that it is easily remembered by children, and they take great interest in comparing their own lives with the lives of these little girls. Really, they become so fascinated with the exercise that they want it "all the time," if it is presented wisely.

11. The actual rotary movement of the earth may be observed, preferably at night, when the sky is clear, by selecting some tall object north or south of your position, locating a star slightly eastward of a direct line from your eye along the east side of the object onward to the sky, and noting in a short time the advanced position of the object eastward toward the line from your eye to the star. A pupil in any grade may be taught to observe this phenomenon, caused by the eastward rotation of the earth.

HISTORY.

(Any six.)

1. The Turks captured Constantinople in 1453. What connection, if any, had this event with the discovery of America?
2. What knowledge of general history is necessary to a proper understanding of the history of our own country?
3. What was the extent of the British possessions in North America as settled by the treaty of 1763?
4. (a) What plan of campaign was adopted by the British for 1777?
(b) What were the results?
5. What was the closing military event of the war of 1812? What effect did it have?
6. What dispute gave rise to the Compromise of 1850, and what were the terms of the Compromise?
7. When was the Emancipation Proclamation issued, and what were its immediate effects?

Answers.

1. The capture of Constantinople by the Turks, in 1453, broke up the trade between India and Genoa. The question at once arose whether a new route was possible. Columbus, a young sailor, ambitious and loyal to his native city, gave his life to the task of finding a new route.

2. All agreed that *some* knowledge of general history is necessary to a proper understanding of the history of our own country. This opinion finds support in principle formulated by Herbert Spencer, when he says, "that there can be no correct idea of a part without a correct idea of the correlative whole." A difference of opinion exists as to how far back we shall go,—back a generation or two, back to colonial days, back to the European homes of the colonists, back to the heroes of Greece and Rome, or back to the primitive Egyptian civilization.

In the German gymnasia, where history has been taught with greater success than anywhere else in the world, the pupil before the age of twelve is taken over the whole range of general history by the story method. He is then conducted over the same ground a second time but with a different object in view. The story method gives way to considerations of cause and effect, or history in its proper sense as distinct from biography. The

pupil is then ready for an intensive study of the history of his own country or of some special period.

Those who would not go back farther than the European homes of the colonists argue that there is no particular gain to the pupil in following the order of events unless he can catch the meaning of the order; that this old life with all its simplicity is so far removed from us in time, spirit and external setting, that it is impossible for the pupil to obtain a correct idea of it; that even the European life of the colonists was vastly more complex than their life in America, and too far removed as a type, from what was planted in America, and from the institutional life which has fallen under the pupil's observation. They admit that the more extensive scheme may be *desirable* but not *necessary*, and point out that it involves a revolution in the teaching of history in our schools which the public at present is scarcely ready even to consider.

3. By the treaty of 1763, France gave to Great Britain Canada and Cape Breton, and all the islands save two in the Gulf of St. Lawrence. Entering what is now the United States, she drew a line down the middle of the Mississippi River from its source to a point just north of New Orleans. To Great Britain she surrendered all her territory east of this line. To Spain she gave all her possessions to the west of this line, together with the city of New Orleans. But Great Britain, during the war, had taken Havana from Spain. To get this back Spain now gave up Florida in exchange.

4. The British plan of campaign for 1777 was to get entire control of the Hudson. The plan was threefold: (1) Burgoyne was to come down from Canada by way of Lake Champlain; (2) St. Leger was to sail up the St. Lawrence into Lake Ontario, and, landing at Oswego, was to come down the Mohawk Valley; (3) and Howe, with the main army, was to go up the Hudson from New York. All three of these divisions were to meet at Albany.

Burgoyne traveled slowly. The country was swampy and heavily wooded; he was constantly moving away from his base of supplies; Schuyler's army, daily increased by the inhabitants of the country, obstructed his march in every possible way. An expedition sent to Bennington for supplies was defeated. Burgoyne was finally brought completely to bay and forced to surrender, after waiting in vain for help from St. Leger or Howe.

St. Leger made his way to Oswego and from there to Ft. Stanwix. Here his Indians, the mainstay of his force, frightened by the false report of the approach of a large army, left unceremoniously. St. Leger himself retreated a few days later.

Howe believed it was more important to capture Philadelphia than to get control of the Hudson, and thought he could accomplish this before aiding Burgoyne. Washington's masterly strategy delayed Howe and rendered possible the capture of Burgoyne.

5. The battle of New Orleans. It did not affect the treaty of peace in any way, but it revived the confidence of the people in the military ability of their soldiery under competent leadership.

6. Should the territory acquired from Mexico be slave or free?

The compromise of 1850 contained four essential clauses, two of which favored the North and two the South. They were as follows: (1) California was to be admitted as a free State; (2) but in the rest of the Mexican cession, divided into the two territories of

Utah and New Mexico, the people were to decide for themselves whether or not they would have slaves; (3) the slave trade, not slavery, was to be abolished in the District of Columbia; (4) but a vigorous and exacting fugitive slave law was to be passed.

7. January 1, 1863. It affected foreign opinion because, from that time on, the fight was against slavery as well as for the Union. It resulted in the enlistment of blacks as Union soldiers, and a consequent stopping of all exchange of prisoners, because the South refused to recognize the black soldiers or their officers.

READING.

(Based on general field of Reading.)

(Any five.)

1. Are pictures helpful in teaching younger pupils to read? If so, how?
2. How much importance is to be attached to the learning of the definition of the words in the reading lesson?
3. What is the difference between the function of the author and that of the reader?
4. Are geographical and natural science readers desirable? Why?
5. Ask five questions best adapted to bring out the meaning of the following:

"Here rest the great and good. Here they repose
After their generous toil. A sacred band,
They take their sleep together, while the year
Comes with its early flowers to deck their graves,
And gathers them again, as Winter frowns.
Their's no vulgar sepulcher—green sods
Are all their monument, and yet it tells
A nobler history than pillared piles or the eternal
pyramids."

6. In oral language the thought suggests the words; what of printed language in this respect?

(Based on "How to Teach Reading.")

(Any five.)

1. What effect upon expression have stern, harsh feelings?
2. What is meant by the saying, "The man is the expression"?
3. What feelings and spirit lead to musical expression?
4. Underscore the emphatic words in the following:
"In words, as fashions, the same rule will hold—
Alike fantastic, if too new or old;
Be not the first by whom the new are tried,
Nor yet the last to lay the old aside."
5. What is the value of a pause in the process of reading?
6. What is meant by "grouping"?
7. In general, what thoughts and feelings are expressed in low tones?

Answers.

(Based on general field of Reading.)

1. They are very helpful in implanting the idea in the child's mind that the content of the reading matter may be imagined. In most modern readers his first

lessons are accompanied by fine illustrations, both helpful and suggestive. He learns their applications and relations, and by degrees he instinctively associates a picture with an idea, and in time builds images as fast as his eye can pass along the lines.

In teaching younger pupils to read they help to join the idea with the symbol, in passing from the concrete notion to the abstract characters.

2. It is not at all important if the definitions to be learned are to be recited. It is very important if the definitions are used for reference to confirm, enlarge or make clear the interpretation.

3. The function of the author is that of a creator; his work is his "creature." Some part of the author's knowledge, thought, feeling or purpose—one or all of these; that is, some part of the author himself flows into his work. The author is like Jesus in the miracle—virtue goes out of him.

The function of the reader is different from that of the author, and yet is like it. He takes up a dead composition and makes it live again. He re-creates if he does not create. He evokes from the printed page what the writer put into it. He restores the writer, so far as he puts himself into his work. He reanimates the souls that lie in leathern coverings. (See Language Arts, pages 67, 68.)

4. If the purpose in using such readers is to acquire a taste for literature, it will not be accomplished through lack of proper contents. If the purpose is merely to gain information in the lines suggested, they will prove beneficial, for the subject matter in such readers is generally presented in a very attractive and interesting manner.

5. What "sleep" is meant and who takes this sleep? What is meant by "generous toil"? How do we commemorate the deeds of those who die? What is the noblest life? What is the central thought?

6. The printed language suggests the ideas.

(Based on "How to teach Reading.")

1. Stern, harsh feelings are apt to manifest themselves in the quality of the voice, making it harsh and guttural. Mental or physical conditions are quite influential in giving character to the voice.

2. He meant that the emotional man, the spiritual man, has a certain texture of muscle, which affects the quality of his natural voice, and hence, the quality of voice manifests the man.

3. Grand, dignified, and sublime.

4. Words, fashions, same, hold, new, old, first, new, last, old.

5. To bring about an opportunity to place special emphasis upon a certain word or phrase; or to give the mind time to dwell upon the idea, or the collateral thought between words or groups.

6. By "grouping" is meant breaking the sentence up into parts of varying length, to emphasize or make clear the meaning. Grouping is entirely independent of punctuation.

7. Low tones are used in expressing tenderness, pathos, sorrow, and the like.

Indiana School Journal

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THIS NUMBER.



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INDIANA SCHOOL JOURNAL

VOL. XLV.

APRIL, 1900.

NUMBER 4.

SUGGESTIONS ON THE MORAL TRAINING OF YOUNG CHILDREN.

E. B. BRYAN, ASSOCIATE PROFESSOR PEDAGOGY, INDIANA UNIVERSITY.

Since the revival of Herbartianism in America, it has become commonplace to say that above any amount of training or information that the child derives from the school, the character that is developed is of greatest importance. Rein, perhaps the greatest living exponent of Herbartian pedagogy, says that he cares less for the mere mass of knowledge to be imparted than for the moral and religious strength of character, the power and energy in action, the grasp of modern social, industrial and political relations which are the outcome of the work of education for the individual. This thought of Rein has been emphasized in this country rather from the side of the individual than from the social side, the attempt being to show the importance of character in itself rather than in its relations. While the value of character in itself can never be over-emphasized, I think that we must all see that character that isn't "hitched up" to something is weak and ineffective, to say the least. In this paper, I wish to recognize the truth in the theory that moral character must be the fruitage of child-culture, and to suggest some things that may help in the training of young children. In working out some of the more general principles that underlie the moral training of young children, we must, as in their play and work, make our determinations from the standpoint of the child itself, and not from the standpoint of the adult. Two things must be borne in mind—(1)

that many things which would be grossly immoral for the adult have no moral significance whatever for the child; (2) that the child's standard of morality, so far as he can be said to have a standard, does not come to him so much by intuition as by precept, and not so much by precept as by unconscious suggestion and imitation. The first point will be helpful in determining the content of morality for the child, and the second point will serve as a guide in determining the method in moral training. Nothing could be more deadening to the development of the child than an attempt to make it conform in every way to the moral standard of the adult. Because the young child appropriates that which does not belong to it, it is not therefore a thief as its father would be under the same conditions. Because the child in the vividness of its imagination does not adhere strictly to the literal truth, it is not therefore a liar. Because the child connives in every conceivable way to attain a desirable end, it is not therefore a trickster; and because the naked child, even at seven or eight, manifests no sense of shame in the presence of others, it is not therefore disgracefully immodest. From the standpoint of the adult these things would all be gross breaches of morality, while from the standpoint of the child they have but little or no moral significance. On the other hand there will come a time in the life of the child when these very things will have

great moral significance, and the pedagogical question which must be met is, What can be done for the child at this time which will result in a sense of right and wrong, and a disposition to do the one and avoid the other, but which will not result in prudishness, or a precocious and morbid sense of moral delinquency? Prudishness and moral morbidity, above all things else, must be avoided during these years. Better no sense of morality at all, than that the child of six or seven should either hold himself up as a bright and shining example of right conduct, or that he should magnify his childish mistakes into cardinal and unpardonable sins. Such moral attitudes are by far more hopeless even than almost any overt childish misdemeanor. It is not good for the child to be acutely conscious either of his goodness or his badness. His mind for most part should be, and under normal conditions will be, occupied with something other than self. It is in this connection that direct, positive moral training at this time not only often fails to accomplish desirable ends, but does positive harm; the child and his behavior are apt to be made the topic for discussion. For this reason, in all attempts to teach morals, an indirect method—the reading of a story, the relating of an incident, etc.—is superior in every way to the more direct treatment, which should be held in reserve for special cases. We often teach the child to discern the right from the wrong, and admonish him to cleave to the one and forsake the other, only to find that as a result of our teaching, or in spite of it, the second state of that child is worse than the first. As a rule, the discriminations that he is capable of making are not effective in determining the course that he will pursue. Fine discriminations and admonitions are apt to be valuable in pro-

portion to their scarcity. Nowhere in the development of the child do suggestion and imitation play so lasting and important a role, as in the development of morals or conduct. As nothing helps the child so much in the acquisition and use of good language forms as saturation in good language forms, oral and written, so nothing will instill within him the habit of using pure rather than vulgar language so much as association with those who always use pure language. No amount of moralizing on the sinfulness of lying will help the child so much as living with people who always speak the truth; and nothing will more readily and effectively develop in the child a sense of personal and property rights than association with those who are careful to observe the rights of their fellows, and who do not appropriate to their own use that which does not belong to them. The first great concern of parents and teachers, who are interested in the morals of children, should be their own behavior.

The moral ideal for the stage of childhood is innocence of right and wrong morally considered. Every child knows that there are some things that may be done, and some that may not. This knowledge should come to him more as a matter of course. He soon learns to keep his hands out of the fire because he doesn't like the result of putting them into it; and so he must early learn to desist from many things for the same simple reason, that he doesn't like the consequences; but he does not, neither can he, look upon these things in themselves as right or wrong. I have known children to repeat the oaths of their elders with as little sense of guilt as if they were repeating the catechism, and in so doing they were not therefore immoral. The danger, however, is that, having the language at their

command, it will be but a short and very easy step to supply the content, which means profanity. Something should be done to prevent such results. Prohibition of the use of such language with little or no emphasis upon the naughtiness of it is the most rational and effective remedy. And so it is with the child's conduct in general. The experience of the teacher and parent must count for something, else what is the significance of parenthood or control in school? There will come a time when the child should be thrown upon his own responsibility—left more or less free to do as he desires, without let or hindrance, but not so now. Indeed, at the beginning of life, so far are we removed from the possibilities of such an ideal, that implicit obedience should be insisted upon. Some one has wisely said: "If the child does not obey when first commanded, he should be punished; but if the teacher even succeeds in securing obedience after he has commanded many times, he, and not the child, should be pun-

ished." Teachers must know how demoralizing it is to keep nagging at children. They must also know that for many reasons there are some requests whose reasonableness can not be explained to the child. In such cases implicit, unquestioned obedience should be expected.

The child with a healthy mind does not contemplate the wickedness of one possible line of action and the goodness of another possible line, and upon the basis of this discrimination determine his act. If he be a normal child, he does desist from doing certain things, because he has learned that these are things that must not be done, and he falls into the habit of letting them alone. On the other hand, if he be a normal child, he does certain things over and over again, until his habit of action begins to take form; and, so, the child should pass from his childhood into the early years of youth, with the alphabets of moral habits pretty firmly fixed, but in no sense a contemplator of deeds.

GRAMMAR IN THE ELEMENTARY SCHOOLS.

GEO. W. NEET, PROFESSOR PEDAGOGY, N. I. NORMAL SCHOOL.

The mind's natural mode of approach in beginning the study of any subject or object is, first, to study in such a way as to get a more or less definite idea of a thing as a whole; that is, of its general scope, the things of which it is made up, and its most general relations to other things. This having been done, the mind, secondly, raises the question as to what the work is the thing has to do. That is to say, the mind seeks the purpose of the thing it is studying.

Thus, assuming that teachers everywhere know grammar in its general scope, and in its general relations to other

things, it will be the object in this paper and a succeeding one to study the purpose of grammar as a subject in the elementary school curriculum.

There was a time in the history of our schools when the course of study consisted of only spelling, reading, writing and arithmetic. But at length it was felt that the children in communicating their thoughts and feelings did not use as good English as they should. It was seen that there was no subject in the school curriculum which had it as its special object to give the children the ability to do this. This thought and feeling grew in the

minds of the people till it became a real felt need, strong and fervent, for some subject in the school curriculum that would fix with the children the habit of using good English in expressing their thoughts and feelings. And this was the origin of English grammar as a subject of study in the elementary school curriculum. It seems to have been thought that, if the children knew how to use good English, they would do so in speaking and writing. It was said, and confidently believed, that the purpose of grammar is to teach how to speak and write correctly. To teach the learner how to speak and write correctly was taken to mean the same thing as to fix with the learner the habit of speaking and writing correctly. This idea of the purpose of grammar was given from one generation to another, and accepted as correct for a long time, and for this reason may with propriety be called the traditional purpose of grammar. So now it is said that the traditional purpose of grammar is, that its study is to teach the learner how to speak and write correctly.

It does not seem to have been considered whether the subject of grammar has more than one purpose, and so it was not recognized that it has one main aim of primary importance, and some other aims of secondary importance.

A relevant question here is, How is the purpose of any subject to be determined? If it is held that the purpose of a study is one thing, and the pursuit of it actually accomplishes a different thing, there is a contradiction between the purpose as idea and the purpose in its realization. When this is the condition of things, people will sooner or later conclude that the purpose is not what it has been held to be. And, if the thing actually accomplished is a worthy thing, it will come to be re-

garded after a time as the purpose of the pursuit of the subject. This gives the key to the only way that we have of determining the purpose of any subject in the school curriculum. We may state it by saying the purpose of any subject in the school curriculum is to be determined from the effect the pursuit of that subject produces on the life of the one studying it. This is a truth of any school subject, and it is equally a truth of any lesson.

For instance, if we study as a lesson the following, from Browning, we get the thought and feeling that progress is the characteristic which distinguishes man from God on one hand, and from the beasts on the other. Thus, if we seek the purpose of the lesson, we determine it from the effect on our lives, and say its main purpose is to fix in our thought and feeling the idea that progress distinguishes man from both God and the beasts.

*"Progress, man's distinctive mark alone,
Not God's, and not the beasts'; God is, they
are.
Man partly is, and wholly hopes to be."*

The pursuit of any subject gives, in general, two things. First, it gives knowledge, which should be valuable in furnishing guidance in right living. Secondly, it gives a mental gymnastic to the end that the mind may grow in the ability to think accurately and readily; to love truth, beauty and righteousness; to act truthfully and righteously. That is to say, the pursuit of any subject has two purposes—(1) a knowledge-giving purpose; (2) a disciplinary purpose.

Then the pursuit of grammar will give these two things, and will have these two purposes. The question as to whether the knowledge-giving purpose or the disciplinary purpose is more important immediately suggests itself. Keeping in mind

how the purpose of any school subject is to be determined, let us study this question.

A little consideration of the effect of the study of grammar will show that it does the following things for the learner: 1—It gives excellent mental discipline. 2—It gives knowledge valuable, to some extent, for guidance in speaking and writing correctly. 3—It gives knowledge which forms a basis for the pursuit of other language subjects. The extent to which the study of grammar does these three things respectively must be taken into consideration, as well as the value to be derived from each one, in a systematic study of the effect of the pursuit of grammar on the life of the learner. Let us study each of these.

To repeat, mental discipline is mental exercise in thinking, feeling, and willing to the end of (1) becoming a clear, ready, and accurate thinker; (2) developing a love for truth, beauty, and righteousness; (3) giving habits of self-control and self-direction. Mental discipline is based upon the principle that the mind learns to do by doing. So our question for study is, What does the mind get discipline in, in studying grammar? And this leads us into the study of three mental processes—conception, judgment, and reasoning.

Our ideas of various things expressed by common nouns are our concepts of those things. Thus the words, tree, barn, boy, flower, and birds express concepts. These words each symbolize the attributes common to all the objects which each names. That is to say, each word names a class. The terms concept, general idea, and general notion all have the same meaning. And a general idea is an idea appropriate to the common attributes of a class of objects. Conception is the mind's process in forming a general idea.

The mind naturally gets its general ideas from the study of particulars. Suppose the first barn a child sees is a square one painted red, with a roof sloping one way, containing only hay and corn. From this particular the child's idea of a barn will contain square form, red color, this particular kind of roof, and filled with hay and corn. Say the next barn he sees has all these attributes but square form. From the study of these two particulars, his idea of a barn will still contain red color, roof sloping one way, filled with hay and corn. To be brief, the child from the study of particulars goes on correcting his idea of a barn by dropping out elements, and possibly adding some, until just those attributes remain which are possessed in common by barns. This is the way the mind naturally gets its concepts in life. When it examines the first particular, it forms a tentative, or trial, concept. But it goes on and examines other particulars to correct this tentative concept. It must be noted carefully that the mind naturally examines the real, particular objects of which it forms its concepts.

The logical steps in an act of conception are the following:

1. The mind acts an activity appropriate to a particular object by thinking its attributes.
2. The mind repeats the process with other objects.
3. The mind compares and contrasts these objects.
4. The mind abstracts by holding in consciousness the common attributes and dropping from consciousness more or less the others.
5. The mind generalizes by extending the common attributes of the particulars studied to all the objects of the class.
6. The mind thinks the name of the class.

The first two steps are often put together, thus making five steps, and they are called (1) the examination of particulars, (2) comparison and contrast, (3) abstraction, (4) generalization, and (5) denomination.

The concept is expressed by the common noun, and in a similar way the judgment is expressed by the sentence. We are in the habit of saying the sentence expresses the thought, and it is right to do so, for the judgment and the thought mean the same thing.

The mind at some time in its past experience got the idea trees; also, the idea grow. Now it grasps the relation between these two ideas and asserts it, and thinks trees grow. When the mind does this, it is judging, and the result of judging is the judgment. It is to be noted that in judging there are three activities involved: 1—The mind reacts the old idea trees. 2—The mind reacts the old idea grow. 3—The mind thinks the relation between them.

In judging, the mind grasps the relation between ideas; and in reasoning, it in a somewhat similar manner grasps the relation among judgments. But in reasoning there are three judgments involved, and they are so related that the last one is reached because of its relation to the other two. The following is a very easy statement for reasoning: Reasoning is the mind's process of reaching a judgment because of its relation to two preceding judgments.

On the basis of the order of the judgments in the mind, there are three classes of reasoning—deduction, identification,

and induction. The following will illustrate:

Expression of Deduction:

Animals have voluntary motion.
This object is an animal.
This object has voluntary motion.

Expression of Identification:

Animals have voluntary motion.
This object has voluntary motion.
This object is an animal.

Expression of Induction:

This object is an animal.
This object has voluntary motion.
Animals have voluntary motion.

The mind's ability to think readily and accurately sums itself up in its ability to form accurate concepts, make correct judgments, and reason readily and logically. And all definition making in grammar, if correctly done, is among the very best of exercises in forming accurate concepts, and in making correct judgments. Definition making also gives excellent exercise in inductive and deductive reasoning; and all parsing and analyzing employs identification. These activities are accompanied by the feelings which always accompany clear, accurate, logical thinking. These are feelings of energy, triumph, and exaltation as well as a love for the beauty of the sentence.

No subject in the school curriculum is better adapted to give discipline in the mental processes here studied than grammar. Thus the disciplinary phase of the purpose of grammar appears clearly as vastly important.

[TO BE CONTINUED.]

ETHICAL TRAINING DURING ADOLESCENCE.

SANFORD BELL.

(Read before the State Teachers' Association, December, 1899.)

The moral education of the child begins with birth. There is no experience which he ever has which has not a moral content. At birth, or soon after, the nerves which connect the special sense-organs with the central nervous system begin to function, and from that moment on, no experience can come to the child that does not become an educational factor and contribute its threefold effect—its effect upon his intellectual, emotional and volitional education. Moral education, like intellectual and emotional education, begins at birth, and again like them, it continues throughout the life-span.

There is an idea abroad among the common folk, that the formation of a child's character does not begin until he is about five or six years old—that it therefore does not matter what influences surround him, what he sees, hears, what he thinks, feels and does previous to that time. The child of such parents is too frequently seen on the streets and elsewhere at large. The results are seen in the precocious juvenile offender, too many of whom are personally known by us all.

Another idea which is also wrong, but not so vicious, is that the child's moral education is substantially complete by the time he is ten. This was the thought of the eminent Catholic Cardinal, who is reported to have said that, if he had the child from birth till he was ten, he didn't care who should have him afterward. The child's character is partially, but not chiefly, formed by the time he is ten.

The ethical training which a child should receive during adolescence presupposes an ethical training natural to his

childhood. We must touch briefly this pre-adolescent ethical training before coming to the main point of this paper.

The emotional side of the child's education is the neglected chapter in pedagogy. In the past he has been treated as though he were an intellectual hopper, into which disparate facts might be poured, with the resultant grist of knowledge appearing in due time. Of late the intellectual has been pushed back into a secondary place, and the moral side of the child's nature has received the conspicuous attention. But notwithstanding these two movements, the child is neither characteristically intellectual nor moral, but first, last and always, emotional. These two movements have resulted in great good. But they have both unduly emphasized their respective principles, and have confused partial truth with whole truth.

The organic feelings connected with nutrition are the most conspicuous features of early child-life. Those emotions which concern themselves with self-preservation are necessarily in the fitness of things the strongest impulses which the individual ever has. The only ones which can claim comparison with them in strength and importance are those that come under the guise of sex-love, later in adolescent life. The former emotions tend to preserve the individual, the latter, the race.

In answer to these organic emotions, the infant eats, sleeps and is as merry as he is allowed to be, takes exercise in play and demands clothing and shelter. As his body as a whole is hungry for food, for exercise and sleep, so his eyes are hungry

for sights, his ears hungry for sounds, his palms hungry for things to grasp, his muscles for movement. These hungers of the special senses are very real and very keen. In answering them the child is brought into collision with the things around him, and as a reaction to this collision, in many cases literal, he learns, for this is experience. Nature has wound the child up; the process of education is the process of running down. The emotions are the mainspring. The first ten years of the child's life are characteristically the years of the satisfaction of the organic and special sense feelings. It is the age of sensuous and sense experiences. The child's attention is consumed in eating, drinking, sleeping and doing things; he must test, tear and smash things or die.

In this experience process of satisfying the dominant impulse in him, the child forever and invariably finds order rather than confusion; he finds purpose rather than caprice. The momentous conservative force of this order early begins to assert itself in its natural reactions upon him in the suggestions its meaning has for him, and in the directions and commands of his elders, and along with the satisfaction of impulses he has to learn habits of conformity.

His first ethical ideas are the meaning which he gets out of the life about him. The first moral training which he ever gets is the habits he learns in his endeavor to conform to the requirements of that life. The life into which he is born is exceedingly complex. The institution which begat him, the family, and the other—the school, the church, the state—society in general, stand as the exponent of the crystallized wisdom of the race. Racial life has evolved from primitive simplicity—a life of comparatively few

wants, and these simply satisfied, to the cosmopolitan complexity of to-day. What it has thought to be good, true and wise and beautiful, it has established. The institutional life which environs the child is the exponent of that racial progress—of its wisdom—is its objective expression.

The family as an institution is ethical. It must be so to stand. It must embody ideals of purity, love, devotion, sacrifice, honor, virtue. Society as it stands organized to-day is ethical to the core. There is much evil in it, but it has to be, and is, mainly ethical. Ideals of honesty, of justice, of patriotism of goodwill must ever be where anarchy does not reign. Now the essential of early education is the acquiring of a set of habits that conform to the ethics of the family, of the church, the school, state, society. This must be in order that the child may live and thrive—in order that the child may adapt itself to the life which environs it. That plant thrives best that can best adapt itself to its environment; that animal thrives best that best adapts itself to its environment, and likewise that child-man thrives best that best adapts itself to its environment. This gives the true end of education. It can never be a certain degree of scholarship or anything else that is static. It can never be a given attainment, but rather an attitude or power of perennial adaptation. Evolution is dynamic. Static things can mark changes—can indicate degrees of progress. The end of education at any age is to interpret the most advanced phases of progress, and to form the life habits that conform to them in the effort to adapt the self to that stage in anticipation of the next.

The wisdom of the race as it is seen crystallized in the institutional life, and in the literature, science and art of the world constitute the child's racial inheri-

tance. The last and best is his by virtue of his being born then. Education and life at most can but mean that he will come into possession of the spirit of all of that wisdom and the definite content of some of it, and at last, perhaps, make some slight contribution to it.

In the child's acquiring this wisdom and the life habits which it dictates, he is being trained in the best ethics the world has. He does not recognize it as such; neither do many of his elders. The ethical to him is incidental; so it must ever be in childhood. To him it is incidental, but to the world-order—to the race spirit—it is the chief concern.

We expect entirely too much of the child. In a few years—eight, ten, or fifteen—we expect him to have assimilated what it took the race untold millions of years to work out. The task is enormous. That he ever does it is the great miracle of all time. But we demand conformity to this highly evolved life down in the kindergarten, in the primary and intermediate grades. To us older ones the order is so familiar, the habit so easy; we forget the stages we passed through. But

the most inconsistent thing one sees in life is that of a man or woman who does not conform to this order, dictating that others shall.

During childhood the habits of decorum, these habits of adaptation are formed through imitation, and not through insight; through prescriptive obedience, not self-direction. The child is not conscious of the significance of much, and must take it on faith. He does not know right and wrong as such; he knows them catechetically through hearsay. He knows that such and such things are said to be wrong. He knows right by permission, and wrong by prohibition. Sully says that the child is neither moral nor immoral, but unmoral. But the habits he has learned are moral, are rational and make life comparatively frictionless and afterwards constitute a large part of his salvation.

We have said that the child learns the content of life, and takes on its habits through imitation and prescription. It is this that largely differentiates it from later stages.

[TO BE CONTINUED.]

THE EYES OF SCHOOL CHILDREN.

F. C. HEATH, M. D., INDIANAPOLIS, IND.

As early as the beginning of this century it was recognized that many school children's eyes were injuriously affected by the requirements of school life.

The published results of Cohn's investigations, based on the examination of the eyes of ten thousand children in Breslau and vicinity in 1867, aroused great interest in the subject of school hygiene. Since then, more than two hundred thousand pupils have been examined as to ocular conditions, with particular reference to the frequency of emmetropia (normal re-

fraction), hypermetropia (far sight), and myopia (near sight). The point which most concerns us in these statistics is the advancement in the percentage of myopia in going from the lowest to the highest grades. Cohn found the following progression:

<i>Per cent. of Myopia.</i>	
Five village schools	1.4
Twelve elementary schools	6.7
Two higher girls' schools	7.7
Two intermediate schools	10.3
Two realschulen	19.7
Two gymnasiums	26.2
University students	59.5

His conclusion was that the number of short-sighted pupils increases from the lowest to the highest, and that the increase was in direct proportion to the length of time devoted to the strain of school life. This was verified by Reck, Von Hippel, Gaertner, and many other European observers. In America Callan, Loring, Derby, Williams, Agnew, Risley, Randall, and others have found substantially the same results, except that the percentage of myopia is not so high among advanced students as in Europe. The increase was from three to seven per cent. in primary schools, to 16 per cent. in high schools, and 28 per cent. to 40 per cent. in colleges. The degree as well as the percentage is progressive.

It has been suggested that this change of refraction was simply a process of normal evolution, but it should be remembered, as Risley says, "that the adult Indian, the farmer and the day laborer do not outgrow their hypermetropia, and that the myopic eye results only under the stress of those employments which require the protracted use of the eyes at near work." Artisans, as well as students, develop myopia, if their work requires accurate, near vision; as the composers, joiners and brass turners, for example, provided they began that kind of work early in life.

Erismann found that in twelve hundred and forty-five short-sighted pupils at St. Petersburg, but five per cent. were free from pathological conditions of the choroid. Others have reported similar results, confirming the early teaching of Donders that "a short-sighted eye is a diseased eye."

Risley, who has studied this subject extensively, and who, with the assistance of eight competent oculists, examined the eyes of the children in the various grades

of the Philadelphia schools, contends that the leading factor is astigmatism, the uncorrected eye strain producing the pathological lesions found. Cases observed by Norris and Risley, for a series of years, showed a change from hypermetropia to myopia, with an intervening stage of astigmatism, instead of emmetropia, as had been formerly supposed.

As the tissues of the eyeball are more yielding in the early years, we should be careful not to start our little ones in school too soon, and by all means in the first grades avoid methods of instruction requiring much continuous work at the near point.

It would be well if the eyes of all school children could be examined and attended to when they enter. This would not necessarily require the services of an expert. The teacher might easily ascertain the existence of defective vision, or complaints of headaches, sore eyes, nervous symptoms or other evidences of eye-strain, as well as dullness of hearing, and notify the parents in each case of the necessity of an expert examination. The sufferers, of course, should not be trusted to peddlers, jewelers or opticians, but only to thoroughly competent oculists and aurists. This course would not only preserve many eyes and relieve much suffering, but also greatly facilitate the progress of many pupils, and secure justice for many wrongly condemned for dullness, when they really are handicapped by defective sight or hearing.

Of the reforms necessary to improve the vision of our school children, the first is a modified curriculum. The number of studies pursued is certainly too large for children in feeble health or with defective eyes; in fact, I am among those who believe that all young people are given too much to do. The disabled children might

be allowed to skip some studies and obtain certificates for partial courses.

It is not uncommon for children to devote ten or twelve hours a day to study in school and at home. How can they do this and get sufficient recreation? How can they help suffering from eye strain and other physical ills? But this is not all. They are often reading when they should be sleeping. With a long life before them, why force them so fast? The necessity for frequent intervals of rest is apparent. I would have more short intermissions. Rest can also be obtained by interrupting the studies requiring close application with lectures, object teaching, blackboard and map exercises, etc. The habit of looking up from the book occasionally to reflect upon or recall what one has been studying is to be cultivated; it improves the mind as well as rests the eyes.

Written examinations are a severe tax upon the eyes and health of both teachers and pupils. Conceding the advantages of written work in promoting exactness, we would yet caution against its being carried too far. It is better to sacrifice exactness than health or sight. Let us think a little less of the mental development of our children, and a little more of their physical and moral training.

The construction of our school buildings has an important bearing upon the subject of the hygiene of vision. It has been shown that eye troubles (especially myopia) are less common in the village than in the city schools. The reason for this, probably, is that the village school is so located that it gets abundant light from all directions, while the city school is surrounded by high buildings shutting off most of the light, and also putting bounds upon the exercise of distant vision,

which would otherwise be so restful to the eyes.

The most important consideration to us in the construction of school buildings is with reference to the supply of light. This should be abundant; there should be at least one-sixth as much window space as floor space. Where light is insufficient, work is brought too near, and there is much straining to see, the results being most serious.

The direction of the light is important. It should come preferably from the left side and the rear. Strong light immediately in front irritates the eyes and causes pupils to bend over to avoid the glare, thus congesting the eyes by the posture, as well as straining them by bringing them near to their work. It has been suggested that the light be supplied from above by skylights. This could only be done in the top story, and even there might be objectionable in warm weather, on account of the direct transmission of the heat rays. (In one school building of one story, in Indianapolis, this has been tried with satisfactory results.)

The walls should not be given over too much to blackboards, or if so, they might be covered when not in use by shades of neutral tints. The polished surfaces of the blackboards cause very annoying reflections of light, and some of the walls are not colored as they should be—light blue, or gray, are shades to be preferred. In some rooms where natural light is insufficient, artificial light might be employed, and for this purpose the incandescent electric light is the best.

The proper heating, ventilation and other sanitary arrangements are important, not only because the eyes, and especially the eye-muscles, are affected by the condition of the general system; but also

because bad air and excessive heat are great factors in causing congestion of the eyes.

School furniture should receive more attention than is generally given to it. The assignment of seats is too apt to be on a par with the methods of distributing army clothing, condemned by Dickens on the ground that "the tall soldiers got the short pantaloons, and the short soldiers got the long ones." If desks are too low, or of improper shape, or if seats are uncomfortable, the children are likely to lean forward, thus congesting the blood vessels, and straining the eyes by bringing them too near their work. The seats should be comfortable, regulated to the size of the occupant, and easy, upright postures be taken. The desk should be in proper proportion to length of seat, and not too far forward. It is sometimes urged that the desks should be placed far enough forward so that the pupils can stand easily in their places. But this will cause bending forward when sitting at their work. It is better to have the desk at a so-called minus distance, the top being made so that it can slide forward when necessary, or the pupils could stand in the aisles at the side instead of behind the desks.

Blackboards should be kept clean, and white crayons used principally, the contrast between the two then making the letters and figures easy to read. For near work, pen and black ink on white paper are for a similar reason preferable to lead pencil and paper, or slates.

Wall maps and charts should be distinct in all details. In our text-books much attention should be given to the kind of

paper and the size, shape and arrangement of the type. We are likely to find that it is false economy to get cheap books for the children. Papers that allow the shadow or shape of the type to be seen through them are objectionable; also bluish-white, gray or glazed paper. The best is a thoroughly opaque paper, with either a dead white or a cream surface. Cohn claims that the smallest type used in school books should be at least one and one-half millimeters in height, corresponding to our ten-point type, or long primer; and the down strokes should not be thinner than one-fourth of a millimeter. The lines should be well separated, and not too long—two columns are better than quarto lines.

In writing, either the vertical or slanting script may be used, if a proper upright position is taken, which depends primarily on the proper arrangement of desks and seats already referred to. Special face rests have been constructed for the use of pupils with weak eyes, to hold the head erect and at a proper reading distance. Such cases will frequently find it of advantage to have some form of hygienic desk for home use, and a small blackboard should be given them, excluding all work with slate, lead pencils or ink and paper. Much eye strain may be prevented in this way.

This subject is a large one, and in this brief paper it has been my aim to touch only on some of the most important points, in the hope that more attention may be given by you, the leaders in sanitary matters in Indiana, to this somewhat neglected, but very important phase of sanitary reform in our public schools.

SCHOOL MANAGEMENT.

SUPT. J. H. TOMLIN, SHELBYVILLE.

QUALIFICATIONS OF THE TEACHER.

The merits or demerits of all school work correspond to the qualifications of the teacher. This law is universally true. It is seemingly true that some qualified teachers fail. It is absolutely true that no unqualified teacher succeeds. Qualification may be only in part; likewise success or failure may be in part. General failure, or failure in any particular or phase in teaching indicates a want of qualification. Whether acquisition of knowledge has been limited and neglected or nature unkind in the bestowal of powers and capacities, the failure is to be attributed to the same cause, the want of qualification.

"As is the teacher, so is the school."

The teacher is the school's opportunity. Whatever good qualities characterize the school, in so far as management and instruction are concerned, must be credited to the account of the teacher. The failure must also be charged to his account. He can not escape the consequences of his work, be they good or evil. No amount of argument can explain away a failure. It goes before a teacher as pride goes before destruction. The first impressions are very hard to change. A name established is half the battle; a failure once, always a failure. Such is the power of reputation.

The first, the second, the third great requisites of the teacher are preparation, in the broadest and fullest meaning of the term. The value of a good beginning can not be too highly estimated. Not only do future usefulness and happiness depend upon it, but even the bread and butter question must be settled by it.

If the vast army of young teachers that

enter the profession from year to year could be contented to wait a little longer before beginning to teach; if they would add a little more education and culture to their outfit; more age and experience to their stock in trade, discretion and good judgment would follow, and all phases of school work would be greatly facilitated.

The qualifications of the teacher may be considered under three heads, viz., physical, natural, acquired. The physical qualifications are as follows:

- a. Good health.
- b. Good eyes.
- c. Good ears.
- d. Good voice.
- e. Good personal appearance.

The value of a healthful, sound physical organization can scarcely be estimated. One of the first essentials of every individual is to be a good animal, physically. Good health facilitates labor. It sweetens temper, and is a sauce to good humor. It is the mainspring of energy and industry.

No invalid can perform his part satisfactorily in the economy of labor. Even less satisfactory is the work of the sickly teacher, whose labor for the most part is mental; ordinarily such a teacher is a discouraging element to his school.

Ill temper, scolding, grumbling, quarreling are usually due to physical ailments. Many of the troubles and annoyances incident to the school room are the result of deranged physiological functions and are purely imaginary.

But how can the teacher, engaged in a business which racks nerves and brain, come by good health? There is evidently

but one way, and that is to obey nature's laws. Poor health comes from disobedience to the laws of hygiene; good health and soundness of body and spirit are the rewards of obedience to those laws. Wholesome food, plenty of sleep, regular habits, good cheer, absence of worry are the safeguards of health. Let no one invade the precincts of the school as teacher whose health and vigor are not equal to the duties. For the poor in health and spirit, other callings are more congenial. School life is short, and the interests of the children are to be served first.

Well-trained senses are of very great service to the teacher. The eye is the natural instrument of government. It is a kind of silent sentinel that stands guard over the forces of the school room. A good eye certainly ought to see all that is transpiring in the room and in large part direct the activity of the pupils.

A good ear acts in similar capacity. It takes note of all that is going on in the room, readily detects the difference between order and disorder, the whisper and the study.

These may be termed the mechanical uses of the eye and ear. They, of course, have higher functions which it is not the purpose to discuss here. They are always called into activity in the processes of education, and they play an important part upon the art phase of instruction and the various forms of expression.

It has been said that the "voice is the man." If this statement is true, the first requisite in the culture of the voice is the right spirit. Perhaps it is not too much to assume that the teacher has this. It therefore seems reasonably sure that a

good voice can be cultivated and acquired by almost every teacher. The round, full, low, smooth tone is best adapted to the teacher. The moral influence and force of such a voice is very great. It commands respect and it governs the temper and spirit of the room. Closely related to music, it exerts a soothing influence upon the nervous system. Musical, harmonious sounds are pleasing to the ear and food to the esthetical growth and development.

The value of a good voice will also be apparent to any teacher who teaches vocal expression in any form. The emphasis recently given to this phase of school work makes this of more vital importance. Clear enunciation and articulation are the qualities of the voice that need culture in most teachers.

The personal appearance of the teacher exerts great power for good or evil. It costs but little to be neat and clean in personal attire. Every teacher can and ought to present a decent appearance. The influence of neatness and cleanliness alone upon the esthetical nature of the child and upon government is worth far more than the cost.

Whatever may be said as to qualities of head and heart, deformed and crippled people are not well adapted to the school room, but when intelligence, kindness of purpose, purity, good judgment, great usefulness characterize the teacher, much has been done to overcome any physical defect of nature.

Bodily movements, mannerisms, etc., all bear important relations to the general appearance of the teacher and should receive his constant and careful attention.

GEORGE III.'S FIRST ATTEMPT AT PERSONAL GOVERNMENT.

J. M. CULVER, ITHACA, N. Y.

Having previously pointed out his training and character, his policy, and the nature of the existing political system, we now trace in the light of these George III.'s first attempt at personal government. It will be remembered that the Duke of Newcastle was the leader of the Administration Whigs, and the Prime Minister, and as such, was the formal head in the government. But the foreign war had brought to the front Mr. Pitt. He despised a party leader, and had little sympathy for Newcastle; but by his insight into the conditions for success in the war, and by his popularity, he was as indispensable to the administration as its party leader. So in 1757, there was the agreement by which the Duke of Newcastle should be First Lord of the Treasury, or Prime Minister, with full control of the patronage, and Mr. Pitt, as one of the Foreign Secretaries, was to manage the war. Under these conditions George III. became King, October 25, 1760.¹

We are well enough supplied with original material to follow carefully the first movements of the young King. George II. died at 7 o'clock in the morning. By noon of the same day the Privy Council had assembled at Carleton House, by the call of the new King. To them he made the following declaration: "The loss that I and the nation have sustained by the death of the King, my grandfather, would have been severely felt at any time, but coming at so critical a juncture, and so unexpected, it is by many circumstances augmented, and the weight now falling upon me much increased. But animated by

the tenderest affections of this, my native country, and depending on the advice, experience, and abilities of your lordships, on the support and assistance of every honest man, I enter with cheerfulness into this arduous situation, and shall make it the business of my life to promote, in everything, the glory and happiness of these kingdoms, to preserve and strengthen both the constitution in church and state; and as I mount the throne in the midst of an expensive, but just and necessary war, I shall endeavor to prosecute it in the manner most likely to bring on an honorable and lasting peace, in concert with my allies." On the face, this seems a very liberal statement. But knowing what we do of the later actions of the King, we may see in this the principles of paternal government, and we know them to have been the words of a man with ideas but no adequate knowledge of affairs. More important than this declaration, were certain actions of the King, that spoke louder than words. These were the actions toward Mr. Pitt and Newcastle.

Mr. Pitt, who had done more than any other one man to secure England's success in the Seven Years' War, and who was the real head of the government, and the most popular man in England, called after the council meeting, at the request of the King. He was kept waiting two hours before he was admitted to the royal presence.² Leaving the King, Mr. Pitt went to confer with Lord Bute. He desired to secure a change in the copy of the King's Declaration, to be given out for publication. In the original copy, the

¹London Magazine, 1760, p. 503; Gentlemen's Magazine, 1760, p. 486.

²Bed. Correspondence, iii, pp. 12, 13.

King spoke of "a bloody and expensive war," and "of obtaining an honorable and lasting peace." But there was no reference to allies. This was a thrust at Mr. Pitt's war policy. He and most of the English people had been thinking of the glory and power obtained in the war, not the "blood" and "expense." Then he had pledged his own and England's honor in the alliance with the King of Prussia.

This alliance was not only ignored but threatened by the policy of the King's Declaration. After an altercation of three hours with Lord Bute, Mr. Pitt got his consent to make a change in the printed copy, but the King did not give his consent to the change until 2 o'clock of the next day.³ It would seem that, if the new King intended to "depend on the advice, experience, and abilities of the councilors," it was unfortunate that one so prominent as Mr. Pitt should be compelled to yield to a personal favorite, without ability or experience.

The treatment of the Duke of Newcastle was more considerate, at least formally so. In a letter written by the Duke the day following the accession, he states that he was asked to come to the King at Carleton House. Arriving there, Newcastle was met by Lord Bute, who told him that the King would see him before any one else and before going to council. Bute further assured him that he had always been, and should be his friend. Newcastle then went to the King, who began by saying "that he desired to see him before going to council." He expressed his good opinion of Newcastle, and acknowledged his appreciation of the latter's zeal for the Hanoverian family. The King closed the interview with this remark: "My Lord Bute is your good friend." Newcastle says that Mr. Pitt was

not sent for till some time after he had been there.⁴ It would be wrong to say that the King did not have the right to consult any member of the government, but the manner of this consultation, with the insinuations thrown out, together with the treatment of Mr. Pitt at the same time, does not harmonize with his declaration to "depend on the support and assistance of every honest man." It is interesting to see how this Scotch favorite, who was unpopular in England at that time, as all Scotchmen were, was placed between the King and the Minister. Both Mr. Pitt and Newcastle had to confer with Lord Bute before entering the royal presence. But why all this dickering? If the King really intended to establish a system of personal government, why did he not dismiss both Newcastle and Pitt, make his favorite, Lord Bute, Prime Minister, and put in the other positions men who, like Bute, would be subservient to his commands? This is undoubtedly what the Leicester-House faction expected him to do. One of the duties of "the Patriot King," as given by Bolingbroke, was "to begin to govern as soon as he began to reign. To do this he must surround himself with men that would carry out his will." "His first care will be, no doubt, to purge his court, and call into the administration such men as he can assure himself will serve on the same principles on which he intends to govern."⁵ There is good reason to believe that some such plan was considered. "The first day of the new reign was significant, though not decisive."⁶ But the young King did not possess promptness of action; and Lord Bute hesitated to assume immediately the control of affairs. Another plan seemed to suit them better. That was to allow

³Rockingham Mem., i, pp. 8-10.

⁴Bolingbroke's Works, iv, p. 247.

⁵Bedford Cor., iii, p. xii.

⁶Walpole's Mem., i, p. 8.

the present arrangement to continue for a time. Walpole wrote: "The favorite (Bute) appeared sole Minister for a day or two. The old Ministers agreed to continue as they were; and though the Duke of Newcastle attempted to pretend to have a mind of retiring he soon recollected that he had no such inclination. Mr. Pitt on Thursday acquainted the King that he was content to manage the war, and wished to act in other things as he had done under the Duke of Newcastle; the City have expressed the same advice; the Duke of Newcastle signified his acquiescence yesterday; and thus only the superficialities of the Drawing-Room is altered, not the government."⁷ In a letter written

⁷Letters, iii, pp. 356-57.

about the middle of November, Sir Joseph York said: "He received all his grandfather's servants with great goodness, and pressed them to continue in his service; which they consented to do, though some of them, particularly the Duke of Newcastle, was inclined to retire; but all the Whigs in the kingdom united to desire his continuance in employment, and he was promised the direction in the new election, with all the other influence he formally enjoyed. Mr. Pitt has, however, the lead, and Lord Bute has a difficult game to play, as a personal friend and favorite, with weight, of course, but no employment of business."⁸

[TO BE CONTINUED.]

⁸Pitt Cor., ii, note, p. 83.

THE NEW TRANSFER LAW.

J. W. CRONK, TRUSTEE VAN BUREN TOWNSHIP, VEEDERSBURG, IND.

At this early day in the operation of the new transfer law, there are practically no statistics upon which one can depend or base an argument. Hence, I can not go into any statistical detail concerning it. And perhaps I would not if I had the proper data at hand. Statistics have to be studied to be understood; they are, therefore, usually dull and uninteresting. But I hope this association will pardon me for giving in brief some statements with reference to how this law is working in some localities. I sent out letters to several trustees, asking for data regarding this law; many of them were kind enough to answer my interrogations in detail, and by their permission I will here quote from some of them.

One writes: "I transferred this year about 150 pupils. The expense of this, including high school scholars, will be about \$2,300. All these transfers come from two

suburbs. I was compelled to transfer or build a four-room school house. As this territory is liable to be annexed to the city at any time, I chose the former course. In this territory I enumerated 325 pupils, and therefore am ahead about \$1,060, against an outlay of \$2,300, making deficit of \$1,240. Under the old law our transfers for the three years previous averaged 300 per annum. The amount of special school tax transferred in any one of these years has fallen short of \$100. Most of the people transferred are not property holders or own small residences in their district."

From these statements we see that this township pays into the city corporation \$2,300 and receives, by reason of its enumeration, on these pupils transferred, in special school and tuition revenue, \$1,060. Thus they pay out \$1,240 more than they receive benefits for. If \$1,060 is all the

township receives for schooling these transferred pupils, why should the city have more? Why not the city school these pupils for the same money for which the township is compelled to school them?

Another one writes: "Our transfers under the new law will cost us about \$1,660 more than we receive by reason of the enumeration. I am building two new school houses now. If I were not doing this my transfers would cost me about \$4,000. We will, no doubt, be asked to pay for full term for all transfers the city holds, whether the children are receiving school privileges or not., I will not have enough money to pay transfers according to amount we figured in our apportionment."

And still from another trustee who has carefully looked up this matter in all its details I have the following: "My township transferred in 1898 and 1899 125 children to the city. The property of the parents of these transferred children was transferred by the auditor for city school taxation. On the property thus transferred the city received \$162.41 of special school revenue and \$173.85 of local tuition revenue and from the State school tuition fund \$338.75, making a total sum thus received from all sources, including both special school and tuition, of \$675.01 on the transfer of 125 pupils under the old law. If the new law had been in effect and carried out, the cost to the township on the 125 transfers would have been \$2,025. Thus the city would have received \$1,350 more than the actual cost of schooling these children. Or, in other words, the township would have to pay out on these transfers \$1,350 more than they received by reason of the enumeration. In a township with an assessed valuation of \$1,000,000, this would require a levy of .13½ on the \$100 to meet the transfers of 125 chil-

dren. This township received on an average \$5.40 per capita on the enumeration of these transferred children, and when transferred would pay out \$16.25, which is \$10.85 more per capita than they received. (This calculation is based on the assumption that out of 125 transfers 25 of them are high school pupils.)

"These figures might be taken as a fair average. The \$5.40 per capita receipts is the highest of any given. The transferred pupils as a rule are the children of parents who live in suburbs and own but little if any property. But to be fair in this matter we will add \$2 more to the \$5.40 and then we have an average receipt of \$7.40 per capita, against an outlay when transferred of \$16.25, or a difference of \$8.85. This is unfair. The cities ought to be satisfied with what the townships receive and not ask them to pay more than they have to pay with."

I have the example of still another township, which has within its limits two incorporated towns, and transfers a large number of pupils. I am told that the transfers in this township this year will cost it \$2,700. Its assessed valuation is \$920,335. The special school levy is 24 cents on the \$100, which will amount in taxes to \$2,208. The entire amount of special school fund, which is \$492 less than transfers alone. The perplexing question in this case is: Where is this township to get the money to pay this balance of \$492 and to pay other special school expenses? Still more perplexing is this question when we consider that the law requires this money to be paid by July 1 next, and by that time only one-half of this tax will have been paid in, which will amount to \$1,104. So the trustee will only have on hands \$1,104 to pay a transfer debt of \$2,700, to say nothing about other expenses.

For argument's sake, and to show the fallacy of this law, I desire to give another illustration. The town in which I reside employs eight teachers, including superintendent, at a cost of \$3,375 for a nine months' term of school. Their enrollment is 300 common school and 50 high school pupils. If all the children thus enrolled were transferred pupils from some other corporation they would receive as tuition from these transfers \$5,400, or \$2,025 more than they pay out for teaching them. Thus they could begin the school year with no money on hand and at the end of the year have their tuition all paid and a balance in the treasury of \$2,025. This assumption is not an exaggeration, but illustrates the actual facts in the operation of this law. It shows that one school corporation may be overtaxed and bankrupted to sustain and enrich another.

There may be some constitutional objections to this law. The constitution in declaring the powers of the Legislature says: "It shall be the duty of the General Assembly to provide by law for a general and uniform system of common schools, equally open to all." And further: "All laws shall be general and of uniform operation throughout the State." In practice this law is not uniform, as it only operates from the township to the city corporation. For as we well know there are seldom any transfers from the cities to the townships. Another discordant feature is that it does not harmonize with the statutes. The trustee is compelled by law to give all school children an equal term of school. They give a six months' term to the township pupils and yet at the same time they give a transferred pupil the benefit of a nine months' term in the city, and tax the people of the township for this purpose, while their own children only receive a

six months' term. Thus a large portion of country people pay a tax to keep up their own schools six months and also a tax to pay the tuition of transferred pupils to a city for nine months.

And again this transfer law says that the transfers shall be paid out of the special school fund, but if the corporation transferring does not pay the amount of transfers by July 1 then the creditor corporation shall make written statement to the Superintendent of Public Instruction, who shall in his next semi-annual apportionment of school revenues withhold such sum from the amount which would otherwise be apportioned the county in which the delinquent corporation is located. This would be paying a debt of the special school fund from the State tuition revenue. It is either wrong to pay tuition out of special school fund or else it is wrong to pay a special school debt out of the tuition fund. There is a plain and unmistakable provision in the statute from first to last that the two funds are distinct and separate and that one can not be used to pay to or replenish the other. And also there is an express statute forbidding the expenditure of tuition money for any other purpose or in advance of its apportionment by the State.

I fail to discern any good reason for changing the transfer law as it stood before. Under the old law, all revenues, both in special school and tuition fund, from all sources whatsoever, followed the transfers. Hence the school corporation receiving transferred pupils received with them all moneys for school purposes that had accrued by reason of their existence. This was fair, just and equitable. All school corporations were treated alike, none were losers, none were gainers, and all were satisfied. I never heard any complaint about the old law. In fact, city

corporations were always glad to get the transfers, because they always brought with them a revenue greater than the expense incurred by the corporation receiving them. The transfers were most generally cared for without adding any extra expense, either in tuition or special school funds. It is patent to even a casual observer that this law can and does benefit only the city and town schools, and that at the expense of the township schools and township taxpayers.

The cities have been eager to grasp this opportunity of building up their schools at the expense of the townships. I have seen city school superintendents out over the country canvassing the rural districts for pupils. I know one who had a very elaborate and attractive catalogue printed setting forth the good and superior advantages of his school, and after a systematic canvass he advised the district pupils to demand a transfer of his trustee. I learn he was successful in getting a large number of transfers, not only from the townships in his own county but from an adjoining county as well. The revenues thus obtained go far toward maintaining the city schools, with but little more if any outlay on their part, while the country schools are robbed both of revenue and pupils. I do not wish to be understood as saying anything against our city schools. Far from it. Our city as well as our country schools compare well with the schools of other States. In fact, Indiana schools do not suffer in comparison with the schools of any country. But a system that fosters one school corporation at the expense of another is unjust and reflects no credit on the people who tolerate it. Such a system is at variance with our constitution and the laws of equity and justice, and would if long tolerated destroy

our equilibrium and disorganize our school system.

There is also a social side to the question of this transfer law. The towns and country are inseparably linked to each other. They aid one another both in a social and commercial way. The one can not exist without the other. So what injures one will in time injure the other. The rural districts not only help to keep up the towns by the exchange of their products for other commercial commodities, but they inject into the social and moral life of a town an element without which the towns would degenerate. If it were not for the infusion of country blood into city life, prodigality, dissipation and vice would eat up the morals and bankrupt the business interest of any town in a single generation. The trend of all communities is toward some central point. When a farmer retires from the farm he moves to his trading town or city, but the retired business man if he moves at all goes to some larger place. The tide is ever toward the city and not the country. The tendency of mankind is to centralize. Proximity to each other affords company, which is man's natural desire. And this, coupled with many other attractions to be found in the city makes a city life the most attractive.

Upon the education of a community depends its citizenship. Then if the towns depend so much upon the country, it is certainly very important to the towns that the country have the best possible school advantages. Instead of framing our laws to give the towns and cities the advantage over the country, the reverse ought to be the rule, if any preference were given to either. The country often suffers by people leaving it. Its resources are left undeveloped. There is more room in the coun-

try than elsewhere, and the farmer should be encouraged to stay. But placing them at a disadvantage with the cities only tends to augment their discontent. They should in all things be placed on an equality with their city cousins, and in no one thing more than that of school privileges.

There is more purity and sweetness of soul mingled with the woods and fields and flowers and running brooks in a pure country air than you will ever find in the congested districts of any city. The country is nature's workshop. Then why not

give it every advantage? In a few more years the farmer will be connected with the outside world by telephone and will have his daily paper and other mail delivered at his door. But while this is coming he is asking for the establishment of a township graded school, that the schools of his township be centralized and that his boy and girl receive the same kind of teaching and the same number of school days that the boy and girl in town receive. May God grant that he may not be disappointed.

.... THE SCHOOL ROOM

ASGARD AND MIDGARD.

SOME NORSE LEGENDS, CORRELATED WITH THE
STORY OF WULF.

LYDIA R. BLAICH.

It would be rather a difficult task to find a child of twelve to-day who never heard of Zeus, Herakles and the other Greek gods and heroes. Every one knows how beautiful, how happy, how sunny most of these southern deities were. But did all the world have the same beliefs the Greeks had? The climate, sky, plants, rivers and ocean in and around Greece were so delightfully charming that we are not surprised that the inhabitants had many pleasant thoughts and happy ideas about the nature in the midst of which they lived. We know, however, that not all parts of our earth are alike sunny, blue, balmy and spring-like. Take a journey into northern Europe—Norway, Sweden, Denmark and Germany, from which our old ancestors emigrated into England, and you will find gray skies, some rainy days, heavy thunder, bold, striking promontories, dark pine forests, and winters

bitter cold, full of sharp, biting frosts. It is easy to understand now how the people in these lands had beliefs quite different from the Greeks—that their gods and heroes were strong, brave, enterprising, daring, gloomy, too, at times, occasionally bringing with them a chill quite piercing, and at the same time bracing and energizing, inspiring the people who believed in them with a desire to be, above all, courageous, valiant and mighty in power.

One element of nature with which these Northmen were very much impressed was frost, so abundant during a large part of the year. Listen, now, to their story of the creation of the world.

Long ago there was no heaven above nor earth below; only a deep, empty space, in the midst of which was a world of mist. In the mist was a fountain, the waters of which flowed a great distance. By and by, the water was frozen, and layer upon layer of ice formed an immense solid mass.

South from the world of mist was the world of light, which sent a warm wind upon the ice and melted it. A frost giant,

Ymir, and a cow sprang out of this vapor. The cow gave the giant milk for food. One day while she was licking the ice and salt in it, she came upon the body of a god, who was freed by her from his prison. This god had three grandsons, one of whom was Odin, the All-Father of men.

Odin and his two brothers slew the frost giant Ymir, formed the land out of his body, the seas out of his blood, the heavens out of his skull, and the clouds, hail and snow out of his brain. You see the northern people could not well imagine a condition of affairs without some cold in it, just as the Greeks put sun into many of their creations. One race lived in the north while the other lived in the south; and a people's method of thinking depends very largely upon their surroundings.

Odin felt that a world not good for anything was poor indeed; hence he made the sun and the moon, and commanded them to cause day and night and the seasons. You may be sure that when the earth felt the genial warm sun's rays, all kinds of plants began to sprout and grow, and before long the world was beautiful to look upon. One day, as the gods were walking by the seashore, they felt that in spite of great seas and beautiful plants, with sunlight and moonlight, there was still something lacking. There were no people to make use of all these things. So they made a man out of an ash tree, and a woman out of an alder. To them, Odin and his companions gave life, reason, motion, speech and other god-like qualities; and he bade them be happy on the earth, which was known as Midgard.

Out of the earth sprang a mighty ash-tree, Ygdrasil, which was supposed to support the universe. It had three great roots, one extending into Asgard (the

dwelling place of the gods), the second into Niflheim (the region of cold and darkness and death), and the third into Jötunheim (the home of the frost giants).

Four harts ran across the branches and bit off the buds. These harts were the four winds.



YGGDRASIL.

Odin, the All-Father, lived in Asgard with the other gods and goddesses. Their palaces were made of gold and silver, but the most beautiful of all was Odin's, known as Valhalla. Frigga, his wife, sat beside him on a magnificent throne from which both could overlook the heaven and earth. Two ravens, Hugin and Munin, were generally perched on the back of his chair—one on either side. These were Thought and Memory, who daily flew over the earth and brought to the king a report of all happenings.

Two wolves guarded him, and to them he fed all the meat offered him; for he needed only mead, a kind of goat-milk, to sustain himself. Odin was often called

Woden, and it is in his honor that our Wednesday received its name; while the smiling, gentle Frigga gave her name to Friday.



ODIN.

Odin had a number of sons; among them were Thor, his eldest son, strong and warlike; Baldeer, the best and most beautiful, with pure and noble brow; and Tyr, the bravest of them all.

Odin often wandered on the earth among the people, sharing their pleasures and sorrows, wars and peace; teaching them out of his own large experience; telling them of his successful battles with the great frost giants and other monsters, and explained how the fight was not yet over, but that the people, too, had monsters around them on every side which must be conquered; and thus he always inspired men to noble thoughts and brave deeds. One day, as he wandered over Midgard, he came to the well of wisdom, guarded by Mimer, to whom Odin said: "I wish a drink from the well of wisdom more than anything else, and will gladly pay any price for it, even my right hand." "Ah," replied Mimer, "many have said as much, but when they found that wisdom can

only be obtained for the price of the right eye, they refused it." "Here is my right eye," said Odin, as he plucked it out of his head and received in exchange a draught of wit and wisdom. Immediately he felt within him a great fountain of wisdom, an inner light spring up.

Odin invented the Runic characters, which foretold fate and which were engraved on men's shields by some goddesses.

People dying a peaceful death were not admitted to Walhalla. This was a heaven reserved to heroes, meeting death on the



VALKYRIA CONDUCTING FALLEN HEROES TO WALHALLA.

battlefield. The gods knew that a day would come, in which there would be a fearful contest between them and the frost giants of Jötunheim, which would conclude the existence of one or the other

side. Hence you may rest assured that Odin was desirous of gathering into Asgard the bravest heroes in Midgard (the earth). There were war-maidens, called Valkyria, in Asgard, appointed by the great ruler to watch over and assist the most heroic warriors and carry them to heaven when they fell. These virgins rode through the air on the fleetest horses, and could be detected by a weird light with which their presence filled the northern skies, known to us as the "Aurora Borealis."



THOR.

Thor, Odin's eldest son, and the strongest of the gods, possessed a heavy hammer which he hurled with wonderful power at troublesome frost and mountain giants. This hammer always returned to Thor's hand of its own will. Sometimes Thor wore a belt which doubled his divine strength. A precious pair of iron gloves enabled him to use his hammer to the best advantage. Thursday is Thor's day.

Father Elric, the Saxon warrior, worshipped Tyr most of all. In the next story we shall see the reason.

BEZALEEL—A GEOGRAPHY STORY.

MRS. E. E. OLCOTT.

"I wish to go to America to school, so I can learn to teach my people," said Bezaleel.

"You can not go," replied the bishop, sadly, "it would take much money, and you have none."

"I have no money, but I will ask my heavenly Father to send me to America," Bezaleel bravely declared.

One day an English ship came into the harbor.

"May I work my way to America on your ship?" Bezaleel asked the captain.

"No," was the reply, "this ship goes only to Liverpool."

"Let me work my way to Liverpool, then?"

"Yes, you may do that, but you would still be a long way from America, and you would have to pay money to go the rest of the way."

"I'll go as far as I can," said Bezaleel. So he helped the ship's cook, he scrubbed floors, scoured pans, and did all sorts of rough, hard work; but he did it cheerfully, because he thought it would help him to go to school in America.

Turn to the map of the eastern hemisphere, and you can trace the route of the ship from Cape Palmas to Liverpool.

When Bezaleel, penniless and friendless, went from the ship into the streets of Liverpool, people looked at him curiously, for his head and feet were bare, and he wore the native costume of Liberia.

At length, a gentleman questioned him, and Bezaleel told all his story. "I am a minister of the church of England," said the gentleman, "but I happen to know Bishop Taylor, and for his sake you may come to my home."

A week later, the minister gave Bezaleel

a ticket to New York, and saw him safe on board a ship.

Trace the course of a ship from Liverpool to New York. When Bezaleel landed at New York, he went to the home of Bishop Taylor's son, and was sent to a school in Indiana. The winter's cold was so severe that in a year or two he was sent south to a school near Atlanta, Ga.

Compare the climate of Liberia with that of Indiana.

Bezaleel is still in America. If he had remained without interruption in school, he would have gone back to Liberia last summer, but Bishop Taylor wrote him that he could do more good for his people by spending a year in going from city to city, telling his story to interest people in missions. He has told his story in many churches in Indiana. A lady who heard him recounted the facts to me.

Before me lies a letter he wrote me in answer to some questions I asked. You may read part of it; as you read, try to realize how much he has had to overcome since he was a poor little heathen in far away Liberia.

"Your letter just reached me this morning, and was very glad to hear from you. God bless, I am very glad to answer all of your questions.

"(1) The name of tribe is Gribo.

"(2) My African name is Wea, is mean Wilson. But my gaving name is Bezaleel, it gaving me by my Bishop Taylor when I was boy.

"(3) My father name is Kivia; my mother name is Habe.

"(4) The headquarter our Bishop in Liberia is City of Cape Palmas, she is next larger city to Monrovia, that is my home where Taylor shool was Bishop taught me faith in prayer, that is he says if I, we have same faith we have in our food before we sit down in table to eat we have

faith enough to believe that the food will satisfied our need if we have same faith in our prayer our prayer will always ans.

"(5) I went shool first in Liberia, then I came to this country in Upland, Ind. Taylor University I stay there two years, before I went to Atlanta, Ga.

"(6) I have been in this country three years, I came in 95. I have one more year in shool, if I went shool this year I would go back next summer, but I didn't go so I have to go next year then return home in 1900."

The letter was written in March, 1899, so he will soon be through school and on his way home.

I hope to receive a letter from him after he returns to Liberia.

When you feel tired of school, and wish you could lay books aside forever, suppose you ask yourself these questions: If a poor African crossed an ocean and spent five years in a strange land in order to go to school, shouldn't I, an American child, be ashamed to "drop out" before the course is finished? Oughtn't I to appreciate an education as much as Bezaleel does?

THE PHYSIOLOGY OF DIGESTION. II. GASTRIC DIGESTION.

CHARLES D. NASON, PH.D., PROFESSOR OF PEDAGOGY,
TRI-STATE NORMAL COLLEGE.

In our previous paper, we described several simple experiments illustrating the action of saliva on the starchy foods. In treating of digestion in the stomach, experiments are not so easily made, because of the difficulty in obtaining unmodified gastric juices. In the middle of the last century, physiologists avoided this embarrassment by making animals swallow sponges which were withdrawn by a string after having become saturated with the juices of the stomach, but in modern

laboratories the animals are killed and the juices extracted from the organs which the scientist wishes to study, and his results we must be content to accept. It is fortunate, however, that a few experiments are possible, since experiments merely told of, although better than bare statements of fact, give us knowledge which lacks the "warmth and intimacy" of information gained at first hand.

The stomach has been called a secreting churn because its muscular coatings keep the contents in continual motion, and the gastric juice is poured out over its surface. When the stomach is empty, its lining membrane is of a light gray color, but as soon as food begins to enter through the cardiac orifice, the membrane, being suddenly filled with blood, takes on a deep red color, and little bead-like drops of gastric juice appear at the openings of the glands. Experimenters, having dogs with tubes through the stomach walls and closed with a cork on the outside of the body, have caused this change of color and a secretion of stomach juices by merely touching its mucous lining with a glass rod introduced through the tube. In such cases, however, the flow is not so abundant as under the natural stimulus of the food.

We saw in our experiments on salivary digestion that it was essential to have no acid present, but the conditions are different in the stomach, and here digestion does not go on unless there is a small quantity of free hydrochloric acid. The particular function of the gastric juice is to digest (i. e., to render fit for absorption into the body) a definite class of food substances, including the greater part of the fibre of meat, the curd of milk, the albumen of egg, and the gluten of wheat. All these substances are known as pro-

teids. When digested and mixed with the undigested food, the grayish, muddy mass is ready to be spurted through the pylorus, and is then known as chyme. The quantity of gastric juice necessary to digest an ordinary meal is unknown, but it has been roughly estimated that seven quarts are secreted in a day, most of which is reabsorbed in the intestines. The quantity may be increased by eating foods highly seasoned with salt, pepper, mustard, etc., which stir the stomach to greater activity.

Our intimate acquaintance with the stomach juices is probably first made in a slight attack of indigestion when some of the contents of the stomach flow into the back part of the mouth and we experience a most disagreeable sour-bitter taste. The chief active principle of this juice is, again, a ferment, pepsin, but there is also present another ferment, rennin, which is commercially known as rennet, and is extracted from calves' stomachs. In digesting milk, the rennin first forms a thick curd, which the pepsin then digests, whereas the other proteids are acted upon at once by the pepsin.

The materials necessary for the following simple experiments on gastric digestion are (a) test-tubes as before, (b) a hard-boiled egg, (c) some milk, (d) a little boiled meat, (e) a little hydrochloric acid, (f) pepsin, (g) rennet, and (h) alcohol.

Experiment 1. Make a very weak solution of hydrochloric acid (about two parts of acid to a thousand of lukewarm water), and place in it some slivers of white of boiled egg and shreds of boiled meat. Add about two teaspoonfuls of pepsin and place in front of the register where the heat is about 100° F. In a short time, varying with the strength of the pepsin and the size of the pieces of egg and of

meat, digestion will take place. The particles of food first become transparent at the edges, and are gradually dissolved.

Experiment 2. Repeat Experiment 1, using milk instead of egg and meat, first adding a little rennet to form a curd, and then the pepsin.

Experiment 3. Repeat Experiment 1, using two test-tubes, and to one adding a considerable quantity of alcohol. In the tube containing the alcohol, digestion will be retarded.

This last experiment, strictly considered, is not conclusive if it is used as an argument in so-called "scientific temperance instruction." To be sure, alcohol in large quantities hinders digestion, but physiologists are almost a unit in declaring that in moderate quantities it rather aids in the preparation of the food for absorption. The difficulty arises in that in the experiment there is no stomach present to be stimulated by the alcohol. Personally, I prefer unequivocal results, but where the moral question is considered of more importance than the physiological fact, the experiment may be of value. The provision must be made, however, that there is no bright boy in the class to point out the fallacy and to laugh (in his sleeve, of course) at the discomfited teacher.

As, even under the best conditions, gastric digestion is not a rapid process, it will be best to start the experiments at the beginning of the physiology period. Before digestion is complete, the conditions of the experiments, collateral facts from the text-books, etc., may be discussed. The tubes should be preserved to be further examined after school. These experiments may also be used to furnish material for compositions which may be appropriately illustrated with drawings of the apparatus, which consists almost exclusively of cylinders below the eye. Thus

the interest naturally aroused in the physiology lesson will make its contribution to the perhaps more irksome work of composition and drawing.

In order that the pupils may preserve that spirit of humility said to be characteristic of scientific men, I would suggest that they be asked why the stomach does not digest itself, since it has no difficulty in dissolving raw meat, and a very small dog can digest a large bone. Living frog's legs have been digested by dogs, but, although this seems to indicate that the gastric juice can digest living matter, yet we can never be sure that the first action of the juice was not to kill the legs, which were subsequently digested. Moreover, after sudden death, the stomach is frequently found perforated by its own action. The answer to our question will certainly not be found in the first text-book at hand, and the teacher who is afraid to confess her ignorance will do well to avoid the query.

The strongest influence exercised by men is often exercised unconsciously. We cannot see ourselves as others see us. No one knows what his best power over others is or in which direction his truest and purest influence is spreading. So with an author; no one correctly judges his own book. What we consider our strong points may be put down by our friends as amiable weaknesses, and often when we think we are failing they are admiring us for the courage of the struggle. Many a modest person, who never dreamed of influence, but just does all he can, without ostentation, is spoken of with quite affectionate esteem; his name is beloved and his memory revered, while the benevolent busy-body is patiently endured rather than affectionately esteemed.

Indiana School Journal.

PUBLISHED MONTHLY.

D. M. GEETING, }
GEORGE F. BASS, } - - - - - Editors.

ELMER B. BRYAN, - - - Associate Editor.

Discontinuance.—The Journal will be discontinued when the time for which the subscriber agreed to take it has expired. The figures preceding the dash on your label give volume of Journal; those following, the number of the volume with which your subscription expires.

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Change of Address.—When a change of address is desired, the subscriber must give both the old and the new address.

Price.—Subscription price is ONE DOLLAR a year. Single copies 10 cents.

Address all communications to

INDIANA SCHOOL JOURNAL,
Commercial Club Building,
INDIANAPOLIS, IND.

Entered at the Indianapolis postoffice as second-class matter.

DAVID STARR JORDAN.

David Starr Jordan, president of Leland Stanford Junior University, California, and former president of Indiana University, addressed the teachers and friends of education in this city on Saturday morning, March 10, at Plymouth Church. He was introduced by Superintendent Goss, and at once proceeded to discuss "The Condition of Things in South Africa." He had not proceeded very far until it was clearly felt that Dr. Jordan, in his maturer life, has swung round to the humanities; that he is now a student of men. It was easily seen that his audience was much pleased with his most excellent address, filled, as it was, with beautiful thoughts and delivered in his happiest vein. He said in part:

"Because a nation is civilized, it is not necessarily fighting for civilization. The fact that a nation is civilized makes its uncivilized warfare more barbarous. Be-

cause two of these nations are republics is not a reason for saying that they are fighting for republicanism. The question of what they are fighting for is altogether different from the question of what they are. Because one is capable of giving the better government, does not make that nation right. Neither does it settle the question as to who is right. I believe the right will finally triumph, but it usually takes a few centuries for it to do so. There is a right and a wrong in history, as in the lives of men, and it is not determined who may whip the other. I want to get rid of all this cant about nations fighting for manifest destiny. I believe there is right and wrong with the nations, as well as with men. One definition of right is, that which maketh for right and bringeth forth life most abundantly—that which enables the world to do more living than it otherwise would do. That which narrows life is wrong. A nation can exist only on the basis of peace, on the basis of justice, on the basis of the old virtues of sobriety, honesty and fair play. The Anglo-Saxons have a great mission—not of dominion, but of permeation. This duty of permeation is to reach and exalt. We have no mission that should be carried out with the sword or with the cannon ball. The forcing of war upon those people by the British was deliberate murder, and the responsibility of the crime rests upon Chamberlain. There was no court to decide whether or not Paul Kruger was in the wrong in insisting upon the rights of his people. The question was decided by Chamberlain, once and for all. The great lesson of the Transvaal will be learned later on. Greed will never strengthen England permanently. The only strength a nation has is in the hearts of its people, and that is what makes the United States, as a nation, what it is to-

day. The people of the United States did not realize what human slavery meant until 'Uncle Tom's Cabin' was written. Some day somebody will write the Uncle Tom's Cabin of Great Britain, and it will create a greater stir than did the book of Harriet Beecher Stowe. Great Britain is in the wrong."

THE ONE-MAN POWER.

This expression has recently come into use in Chicago, growing out of the action of Superintendent Andrews with reference to his official position. The press of that city almost uniformly misrepresent him when discussing that question. Few superintendents desire that autocratic power suggested by the above heading, and this is true, particularly in Indiana. The organization of the school boards in the cities and towns of Indiana is very fortunate, and few reasons could be given for a change that would serve us better. The first and perhaps one of the most striking facts that confronts us is the size of the boards numbering but three members, except Indianapolis, and this has but five members. This fact prohibits the division of the boards into committees, which, through a combination of the chairmen of these committees, makes questionable transactions impossible. Another strong feature of our system is the fact that the members are representative men, and thereby know, more thoroughly than even their superintendent can know, the wants of the general public. It is these three men sitting about a table and informally discussing the educational affairs of their corporations in the presence of their school superintendent, who is always looked upon as a well-trained man of wide experience, and who is their counselor, that makes our system strong. Very

few superintendents would, if it were offered to them, use this power as the power of one man; but when he has the fullest confidence of the board, his judgment is always known before action, by the board, as such is taken. We believe that both in the selection and employment of teachers, the opinion of the superintendent generally prevails. If he is well fortified with the facts gleaned from his official visits, his opinion will have great weight when he can show that his recommendation is for the increased efficiency of the schools. Often the above title is used to arouse the prejudice of the people against the superintendent when he has shown courage in the discharge of his duties, and for no other purpose. We believe the present plan in Indiana has given us such excellent service, because the ultimate aim of school boards, from the selection of their school superintendent down to the most insignificant act, has been the good of the schools. When this spirit dominates the superintendent, and the public recognize this in him, he will have little reason to complain of lack of authority. If greater authority were given by statute, the rash and impulsive superintendent might, in an unguarded moment, work irreparable harm, both to the schools and to school sentiment of a city. While the situation in Chicago is not such as to cause alarm, it will do us good to watch the issue.

THE STIMULUS OF SUCCESS.

One of the problems that is ripe for the student of psychology is the Psychology of Success with pedagogical and social applications. No one at present has given this subject the attention and careful study which it merits, and yet on the surface there is hardly a question in the

whole field of psychology, pedagogy, or sociology that promises more. In general, we believe that what anything can do or become depends more or less upon what it has been doing, and so we believe that one's ability to accomplish certain tasks depends somewhat upon the ability he has gained in performing this or similar tasks. We judge one's future by his past, both in generals and particulars. After all else is said, one of the great differences among men is a difference in ability to do things—to make things come to pass. And it is true here, that, other things being equal, we judge of one's outlook in the light of his retrospect. It is not only true that "nothing succeeds like success," but it is also true that nothing helps one to succeed so much as a success already won. We will have taken a long step in advance, psychologically and ethically, when we see that not what a man needs to do, but rather what he feels from former experience he can do, is the thing he will accomplish. Not necessity, but faith in one's ability is what sets one to his task and keeps him at it.

In the absence of strictly scientific data I will have to base my work upon common observation, with the hope that the applications I wish to make will not suffer greatly for this reason. Every teacher has noticed with what enthusiasm and vigor children take up difficult tasks in arithmetic after they have been successful in the solution of some very difficult, knotty problem. Not all the coaxing, or scolding, or moralizing in the world would fit them half so well to take up the new work, as the victory already won. Whoever has attended country spelling matches, which were so widely in vogue until recent years, knows what effect for future contests a single victory had upon the champion and the entire school of

which he was a member. A study of college oratory and the development of college orators would bring out some very valuable data. The professor of oratory often finds it difficult to keep the squad of orators from becoming "dead," so to speak, before the primary, and progress seems to be very slow. But after the primary, it is often quite surprising to note the remarkable development of the successful candidate. No doubt the psychology of the expert,¹ as worked out by Prof. W. L. Bryan and Supt. Noble Harter, would play an important role here; but inasmuch as the lift up usually comes directly after the first success, it would seem that the success is an important factor; and so the college that has been winning, continues to win. Not the wish to win, so much as the belief that victory is certain, does the work. The former, without the latter in good measure, rather inhibits than reinforces. Any one who is acquainted with high school or college athletics knows how important success at the beginning is, and how dreadfully depressing a series of failures is. The social effect in all of these things is a very important factor. Not only does the former champion take up his new task with greater confidence in himself, but he inspires his followers with confidence, while on the other hand, his opponents view him as a more formidable adversary, and in comparing themselves with their task are not so large or so sure as they were before the success of their rival. His success has enlarged him and his followers, and reduced their opponents.

The same effect is seen both psychologically and sociologically in the case of one's success in business. Not only does the business man, who has achieved success, take up new enterprises with more vigor

¹Psychological Review, July, 1899.

and a higher degree of assurance, but the entire community believes in him, and so he is doubly reinforced for the undertaking.

But the great help that success already won has for an individual is shown nowhere to better advantage than in the field of morals or will-training—in the formation of new habits of life, and in breaking away from old ones. Many young people are kept from doing wrong things and falling into evil ways simply because they have never done so. One young man says: "I do not keep from the saloon so much from a mere sense of right and wrong. I do other things that are equally bad, but I have lived thirty years without darkening the door of a saloon, and that keeps me out. If I were to break down the possibility of saying that, I think I should become a regular visitor to such places." The thirty years behind him, and not the moral ground he has attained, does the work for him. And I wish to note here that the reason one finds it so much easier to go a second time, and so on, is not due so much, as is commonly supposed, to the fact that he has gotten a taste, and now it is in his blood, and he can not get away from it. In a very small way this is true, and should in itself be sufficient reason to keep one from taking the wrong step. But the chief reason is this: Before this step was taken, he was an abstainer; now he is a saloon goer, and it is infinitely easier for the latter to do such things, even if he bear the same name, live at the same place, and is known by all as the same man, and has only twenty-four hours between himself and his former self. So it goes in the formation of all our bad habits; the redeeming feature of the thing is that it works equally as well in the formation of good ones. If the man who is addicted to drink or to-

bacco could live under conditions which free him from temptation, and which at the same time would make it very difficult for him to secure them when his appetite or system demand them; and, if he would thus abstain for some months, he would have one of the strongest braces possible for continued abstinence. It must not be denied, however, that his peculiarly good situation has enabled him to wean himself from these things and set his system to rights again. I would not ignore this point in the least, but wish to bring out at its full value the important part that success plays. One man who used tobacco until he was more than fifty and then quit, says: "I often want it just as bad as I ever did, but I haven't tasted it for five years and I don't intend to do so." One of the great things in his favor is the fact that he has succeeded for five years. Success seems to enlarge in every way the one who has attained it: not only does he instantly feel relieved and free from the old task, but he feels invigorated and ready for a new battle, he thrills through and through, his eye flashes, he straightens himself up and, for the time being, actually grows taller. The effect that success has upon one physiologically is as full of interest and value as its effect psychologically. No doubt the heart beat is affected, circulation changed, the function of nutrition and the work of the glands, secretory and excretory, accelerated or retarded. It would be strange, indeed, if the physiological effect of success is not almost, if not quite, as marked as are the physiological effects of fear, as shown by Mosso,¹ but the facts need to be worked up. I think that it is this enlargement of the self as felt by the successful man, and often unconsciously sub-

¹See Mosso's *Book on Fear*, published by Longmans, Green & Co., New York.

scribed to by others, that accounts for the tendency on the part of most people to regard the man of knowledge or of wealth as in some way superior. As we think the matter over, we are apt to say that the rich man is no better than the poor man, and should be esteemed no more highly (and in many cases this judgment is true); but in spite of ourselves, when we meet one who has amassed a great fortune and is known the country over as a money king, we do not feel that ease and freedom that we do when in the company of our professional and financial equals. If we do not admit it with our mouth, we at least do with our feelings, that in one respect, at least, this man is our superior; and, I think that we must admit, that if he is our equal in other things, that as a man he is our superior. In these various ways we see in a way what the psychologic effect is upon the person who achieves success, and what the social effect is upon those about him—this holds all the way from the successful child in the primary school up to the success of a great naval officer at Manila. What should this mean for pedagogy? Two things, at least. In the first place, in the assignment of work, the teacher should be careful to keep within the limits of the child's ability. It is a great mistake to suppose that because the activity which one puts forth in the accomplishment of a task is the chief gain to be derived, that, therefore, it is of no consequence how difficult and impossible for the child the assignment is. If our children were all philosophers or students of psychical research, it would be of little consequence whether the assignment were possible of solution or not. But, happily, they are not. They are simply children, subject to the encouragements and discouragements of common humanity, and, in school, they

ought to be accorded the same fighting chance, and stimuli that adults outside the school so much need, and without which they so often fail. And when the child does an unusually difficult piece of work, or improves upon himself in any way, it is simply his due that the teacher recognize the fact. Again, this is according the child no more than his elders out in the world need to keep them going. Nothing will keep children at their work for more hours than the fact that they have been doing well, and that this fact is recognized by the teacher.

Many pages could be written upon the social effect of success, but it would not be strictly in place in a school paper. But this much may be said: No help will serve the person who is down so much as that which assists him to achieve a victory. We too often feed our tramps just enough to enable them to get to the next house or town. We too often relieve the drunkard by giving him a dime. The problem that the social student has right here, and it is no mean problem, is this: How can people who are unnecessarily or temporarily dependent be enabled to achieve a success in something that is worth while. But wherever we meet people, especially the young, let us not be too fearful, lest we develop their vanity, and let us be a little more careful to let them know that we appreciate their good work. E. B. B.

DUTY.

Duty ought never to wait on feeling, but feeling ought always to wait on duty. One ought never to pivot his duty on his feelings, but everyone ought to conform his feelings to the demands of duty. Kind speech is a duty, whether one feels kindly or not. Not feeling, but duty, must lead one's course, but one's right feeling is included in his everyday duty.

EDUCATIONAL INFORMATION.

MISCELLANY.

HISTORY TEACHERS

In any of the schools of Indiana, who will send postal cards with their names and addresses, will receive programs of the June meeting of the History Section of the State Teachers' Association.

Address C. W. Hodgin, President, Richmond, Ind., or Miss Henrietta Bland, Secretary, 723 Fletcher Ave., Indianapolis, Ind.

MARION NORMAL COLLEGE NOTES.

Prof. J. Walter Laird, who took two years' leave of absence to attend the University of Indiana, completes his work this year, and will take his former position in the Marion Normal School next year. Mr. Laird is a graduate of the State Normal School, a popular instructor, and has many friends to welcome him back to his old position.

The splendid new college building is just receiving the finishing touches, and will be occupied the greater part of the spring term. The completion of this building gives the Marion Normal School the most complete equipment in the way of buildings of any private school in the West.

The opening of the spring term was very gratifying to the management and friends of the school. The attendance is large, and hundreds of old students, who have been teaching, have returned to continue their work.

The growth is not only in the Normal School, but the various departments of the Business University show a wonderful increase.

STATE UNIVERSITY ITEMS.

The authorities at Indiana University report a great demand for information concerning the work for the Spring Term and Summer Session. The change in the work of the Summer School gives promise of a decided increase in the attendance.

The announcement of the Spring Term and Summer Session at Indiana University is a

neat pamphlet of forty-six pages which gives full details of the work that will be offered from April 3 to August 24. It will be sent to any one on application to the Registrar, Indiana University, Bloomington.

Indiana University was particularly fortunate in escaping a smallpox epidemic. There were three cases in Bloomington, but general vaccination and the enforcement of the Board of Health rules prevented the spread of the disease. There is not now a single case in Bloomington.

On March 12, 13, 14, President David Starr Jordan, of Stanford University, delivered a series of six lectures before the students of Indiana University. The subjects were: "American Universities," "The Enchanted Mesa" (illustrated), "The Rise of the Common Man," "Evolution," "The Blood of the Nation," and "Lesson from the Transvaal." Each year the University secures an eminent authority to deliver a series of lectures during the winter or spring terms. The last three lecturers were General John W. Foster, Dr. T. C. Mendenhall, and President David Starr Jordan.

The plans for the reconstruction of Wylie Hall, Indiana University, provide for a three-story building, brick with stone trimming. The construction will be absolutely fire-proof. The accommodations for the departments that occupied old Wylie Hall will be much better in the new building. The building will be ready for use at the opening of the fall term.

CORNELL NEWS ITEMS.

At the recent Cornell Alumni banquet in New York, President Schurman announced that a donor, whom he was not permitted to name, had just given \$80,000 for the erection of a Laboratory of Physiology and Hygiene, on the Campus at Cornell.

The new announcement of courses for the Cornell University Summer Session for 1900 is at hand. Among the names of the men who will give instruction at that time, we

notice especially those of Professor Hiram Corson, long celebrated for his teaching of English Literature at Cornell; and Professor David Kinley, of the University of Illinois, who offers courses in Civics and Political and Social Science. Another new name is that of Professor L. B. McGilvary, lately called from the University of California to the Sage Professorship of Moral Philosophy at Cornell. He offers courses in Ethics. Over eighty courses in all are to be given during the Summer Session. They cover a wide range of subjects.

Limitations of space and teaching power alone prevent an attendance of several hundred teachers at the unique courses in Nature Study offered by Professors Roberts, Bailey and Comstock. As it is, the attendance must be restricted to about one hundred persons. Previous classes, however, are encouraged to continue their study of Nature into its more scientific aspects in the regular science departments of the Summer Session.

TO THE READERS OF THE SCHOOL JOURNAL.

One of the practical problems for the superintendent and teacher is to make the curriculum fit the child. To do this, it is of the greatest importance to know as much as possible about child life and child development. One thing that should be known is the different stages or nascent periods in development. With the view of finding out more about this last point, the undersigned has gathered many data from general and educational literature, and from teachers. One thing that seems to be pretty well established is that between the stages of development (infancy, childhood, youth, etc.), there are short transitional periods of disturbance and preparation for the stage which follows. Many things indicate that from seven to nine, roughly speaking, there is such a transitional period. But there needs to be more evidence. I have found the teachers of Indiana always ready to respond to work of this kind, and I hope that they will be willing to sacrifice enough time to answer briefly but clearly the questions which follow. In return for this assistance the results of the study will be published in the Journal. I care more especially for returns from teachers and superintendents

who have children under ten years of age. Please give especial care to 1, 2, 3, 5 and 7.

1. What year's work do you have? What subjects are taught regularly? What subjects incidentally?
2. In what subjects do you have most difficulty in getting desirable results?
3. If you were to offer to do any kind of work (tell a story, examine plants, do number work, sing, etc.) that the children wish, what do you think would be their preferences? Their second choice? Third, etc.?
4. Do your children have difficulty in holding the book, keeping the place, and following the work?
5. What are the most striking physical, mental and moral characteristics of the children about eight years of age? Do children who do not enter school until the age of eight have the same characteristics?
6. Are your children as a rule neat in the use of writing and drawing materials. or are they apt to get things mixed up, let pens and pencils fall upon the floor, get ink on their fingers, etc.?
7. If your only purpose were to make the children happy, and the school thoroughly enjoyable, what three lines of work besides play would you pursue?
8. Do children at about seven or eight, who are losing their first teeth and getting their permanent teeth, make as rapid progress as they did before this time. or after they have a number of their permanent teeth?

Please send returns to E. B. Bryan, Clark University, Worcester, Mass.

MEETING OF SUPERINTENDENCE.

The Department of Superintendence of the National Educational Association held its annual meeting in Chicago, February 27, 28, and March 1.

The meeting was well attended, and many interesting topics were ably discussed. It is worth a great deal to a teacher to be in the presence of these educational leaders of the country, even for a few days. One gets an inspiration that is helpful in his own work, even though he may work in a small

sphere as compared with that of these great educators.

The greeting to the city was given by Howard S. Taylor, a representative of Mayor Harrison. He spoke in glowing terms of the rescue of the schools from the influence of politics. He favors technical and manual training schools. He criticised universities founded and controlled by millionaires, and made a plea for State universities on a larger and better scale than exists now.

Supt. Andrews welcomed the visitors on behalf of the School Board of Chicago in a very entertaining short speech.

This was followed by the address of President Downing, in which he referred to the troubles of Superintendent Andrews in Chicago as a kind common to all large cities.

Nicholas Murry Butler then gave an address in which he traced the development of education during the century with reference to the principles of individual liberty. Among many good things the following were said:

"As the century closes, the soundest educational philosophy the world over teaches us that the individual alone is nothing, but that the individual as a member of society and the race is everything. True individualism, which would enrich the life of each with the possessions of all, is well nigh supreme, and sham individualism, which would set every man's hand against his fellow, is disposed of, let us hope, forever. Education rests securely upon the continuous history of man's civilization, and looks to the nature of each individual for guidance in the best methods of conducting him to his inheritance, but not for knowledge of what that inheritance is.

"During the century education has definitely become a State function, not as a dole but as a duty. Consequently the public expenditure for education has become enormous. This marks, in the most objective fashion possible, the distance we have traveled from the beginning of the century, when there was literally no such thing in existence anywhere in the civilized world as a State system of education. But pride of achievement should yield to a feeling of responsibility for the future. In the light of the nineteenth century no man dare proph-

esy what the twentieth century will bring forth. We only know that a democracy, shielded by insight into the past and armed with trained minds, disciplined wills and a scientific method, is as ready as man's imperfect wisdom can make it for whatever may come in the future. The glory of founding educational systems can not be ours, but the efforts for improvement, by building wise practice upon sound theory, is within the reach of every one of us."

President Elliot, of Harvard, discussed Prof. Butler's paper. He spoke of the unavoidable progress of the elective system in colleges and universities, and of the change in school discipline, substituting love for fear as a motive for right action. He also spoke of the modern crowded city as a new evil to which the educational system must adapt itself. He said that "A new motive is presented in our day to the teacher, parent and child. It is the motive of providing human joy to all those about us. We no longer set a child to a task that we know he can not do, and I want to say that I consider that the great unpardonable sin of the educational system of the day that has gone. What we should do is to set children to do those things that we know they can do well. This is the new and happy aim of our modern education, the joy of achievement. Let me urge you superintendents to mix all your policies with that necessary element of all joy—freedom. Never put before the child a motive which won't work when he is grown up. If you will stop to consider most of the motives commonly relied on are of this kind."

W. T. Harris, U. S. Commissioner of Education, in discussing the paper, gave figures showing that the number of high schools in the United States has more than doubled in the last eight years. He made a strong argument for governmental control of higher education.

L. D. Harvey, State Superintendent of Wisconsin, advocated a system of examination marking, which would be based not on a fixed point for failure, but on the average of the class, so that any student falling a certain per cent. below the average would fail. He believed that this method would give the tests of the examinations a much greater scope.

Prof. W. O. Atwater, of Wesleyan University, Conn., read a paper on "Alcoholic Physiology and Superintendence," which provoked quite a lively discussion.

He claimed that alcohol in small quantities is absorbed and transformed in the system as a food, but that it can not serve for building body tissue, but becomes energy and is actually utilized by the body. However, he denied that this fact could be used as an argument for the use of alcohol, or that he approved its use, and from first to last he spoke as an advocate of temperance, despite his desire for teaching scientific truth. He stated emphatically that alcohol in large quantities acts as a poison. He claims that no teacher has a right to teach what is not true, and he claims further that some of the text-books on scientific temperance taught what is not true. He says that "the injury done by such teaching is twofold. The boy learns later that he has been mistaught and loses faith in the whole teaching, so that the effect is to undo much of the good that the teaching is intended to do. Furthermore, and what is still worse, the result must be to impress upon the pupil, and by the most effective agency, that of example, the example of the school, the Sunday-school and even the pulpit, the idea that deception is allowable in a good cause, that the end justifies the means."

Mrs. Mary H. Hunt, of Boston, national organizer of the W. C. T. U., was given time to discuss Mr. Atwater's paper after the formal discussion had been heard. She said: "There is no support for the view that alcohol is a food, or that it acts on the human system like sugar. It does not build tissue. It has never benefited the human body. Even in small quantities, although it does not destroy life, it creates a very injurious appetite."

F. Louis Soldan, chairman of the Committee on Resolutions, reported that the following were unanimously adopted by the committee:

"In consideration of the deep interest which this department takes in every legitimate effort to advance the cause of temperance, and of its desire to promote in the schools of the country the teaching of temperance based on sound pedagogical and scientific principles; therefore, be it

"Resolved, That the chairman appoint a committee of seven whose duty it shall be to report upon the teaching of physiology in the schools; especially with regard to the condition and progress of scientific inquiry as to the action of alcohol on the human system, and to recommend what action if any by this department is justified by the results of these inquiries."

The officers chosen for next year are as follows: President, L. D. Harvey, State Superintendent of Education in Wisconsin; Secretary, Supt. F. E. Cooper, of Salt Lake City Schools. The next meeting of the department will be held in Chicago. There seems to be a tendency to make Chicago the permanent meeting place.

The following is a list of names of Indiana people who attended the meeting:

J. H. Scull, C. M. McDaniel, J. W. Carr, A. C. Goodwin, F. L. Jones, Edwin R. Jones, Geo. F. Bass, W. H. Senour, W. S. Rowe, E. E. Lollar, T. A. Mott, A. E. Humke, J. H. Tomlin, M. W. Deputy, H. L. Frank, W. H. Hershman, W. D. Kerlin, G. F. Kenaston, A. J. Reynolds, John A. Hill, H. G. Woody, C. H. Copeland, Joseph Swain, Jas. R. Hart, W. H. Glascock, N. A. Hughes, W. R. Snyder, Calvin Moon, B. J. Bogue, Edward Ayres, Noble Harter, J. A. Reiman, G. W. Worley, R. I. Hamilton, C. H. Wood, D. W. Thomas, I. N. Study, H. B. Brown, W. L. Bryan, D. K. Goss, Florence Harmon, B. F. Moore, J. N. Hamilton, A. E. Malsbary, Mrs. Emma Mont. McRae, W. W. Harrison, W. C. Belman, A. T. Reid, J. H. Reddick, J. A. Wood, J. W. Walker, O. L. Watkins, Nebraska Cropsey, Mary E. Nicholson, M. A. Millis, Geo. L. Roberts, A. R. Hardesty, H. H. Helghway, W. N. Parsons, S. W. Baer, R. A. Ogg, Walter W. Storms, Geo. H. Tapy, D. M. Geeting.

The North Central History Teachers' Association will hold its third regular meeting in Chicago on Friday and Saturday, April 13 and 14, 1900. The sessions will probably be held in Fullerton Hall in the Art Institute. The subject for discussion Friday afternoon is, "How Should Work in Civil Government in Schools be Related to the Work in History?" An informal reception will follow the discussion. Satur-

day morning's discussion will be upon the use of "sources." Prof. F. M. Fling, of the University of Nebraska; Principal Webster Cook, of the Saginaw (Mich.) High School, and probably Professor Dana C. Munro, of the University of Pennsylvania, will take part in the discussion. The secretary, Mr. Harry S. Valle, Maywood, Ill., will be glad to furnish further information.

The following parody was written and recited to regain the good will of the class after its author, a pupil in one of the largest high schools of Indiana, had been suspended for not being prepared with a recitation. It accomplished its purpose:

A PARODY.

A member of the Training School was sent
into the rain;
There was lack of teacher's pity, for he was
getting "cain."
But a comrade walked beside him as he
nursed his wounds away,
And turned with pitying glances to hear
what he might say.
The punished student faltered as he saw
his comrade's gloom;
He said, "I nevermore shall see my own, my
loved schoolroom.
Take a message and a token to some dear
friends there of mine,
For I am from the Training School, that
school so large and fine.

"Tell my friends and companions, when they
meet and crowd around
To hear my mournful story, on the pleasant
football ground:
That I fought the battle bravely, but ere the
day was by
Full many a tear had fallen from out my
mournful eye.
And 'mid the boys I met that day were some
grown old in trouble;
The C's and D's upon their cards in some
cases were double.
But I was young, and suddenly beheld life's
morn decline,
For I was but a junior in that school so
large and fine.

"Tell my teacher that her other boys shall
comfort her old age,
For I was, ah! a truant boy that thought
his school a cage.
But my father was a schoolboy, too, and
even as a child
My heart leapt forth to hear him tell of his
troubles fierce and wild.
And when he'd whip me because I'd do the
same,
I'd let him use whate'er he would if he
didn't use his cane;
And with boyish thoughts I'd hide it where
the light would never shine,
When I came running home from that school
so large and fine.

"Tell the girls not to laugh at me and turn
away their head
When I come marching back again with
slow and solemn tread;
But to look upon me kindly with a calm and
thankful eye,
For they might get into the same fix, too,
and then they'd have to cry.
And if the teacher ask their will, I ask them
in my name
To speak up for me kindly without regret
or shame;
And to get me back in school again, my
comrade's school and mine,
The Manual Training High School, that
school so large and fine.

ANTON VONNEGUT.

The Terre Haute School Board are planning a new district for next year. It will be known as the Twentieth District. The present number are overcrowded with students.

PERSONAL.

Supt. Edwin F. Dyer has been re-elected at Portland. We have heard good words regarding his work as superintendent in the Portland schools.

Miss Bertha Curry, daughter of H. W. Curry, ex-county superintendent of Vigo County, has accepted the position of physical director of the Vincennes public schools. The board surely made a wise selection.

Supt. J. W. Carr, lectured at Lexington, Ind., to a large audience, March 16. A most complimentary notice was given him by the local correspondent of the county paper. Superintendent Carr is growing in his profession.

Supt. J. B. Fagan, of Franklin, has been re-elected at an increased salary. The work done by him in the organization and classification of the schools there, marks him as a man of fine executive ability backed by plenty of energy.

J. M. Matheny closes a successful year at Lexington. He will conduct a spring term for graduates of the common schools of the township, which promises to be well attended. Mr. Matheny has established himself in Scott County.

H. H. Keep has been re-elected superintendent of Waterloo schools. For twelve years he has given these schools his best endeavor, and his faithful and efficient services are recognized by this act. He is a very capable school man.

Louis Lambert has just closed his first year's work at Fowler as superintendent. A re-election at an increased salary indicates a successful year. He is a young man of good ability, and he has shown skill in the management of these schools.

E. S. Monroe, Mt. Vernon, has been re-elected for another year. His service in these schools has been most faithful. In the high school, as principal, he infused new life into his students, and now, as superintendent the whole school system of the place shows the work of his hands.

D. W. Stout, principal of the largest ward building in Shelbyville, is a candidate for the nomination to the House of Representatives in his native county, with almost certain prospects of success. Since a nomination is equivalent to an election in that county, one strong progressive educational man is practically assured of a place among the lawmakers. The Journal knows him to be in every way competent.

Cyrus W. Hodgin and J. F. Brown, of Earlham College, were the instructors at a joint institute at Spartansburg last month. The

former discussed Indiana history, and showed how an organized effort might be made to preserve much of the historical material now abundant about us. The latter conducted a sort of round-table discussion on adolescence. Those in attendance expressed a high appreciation of the work of both.

E. W. Lawrence, of the High School, Knightstown, Ind., has been elected to the superintendency of the West Lafayette schools, to succeed Horace Ellis, who goes to Franklin. Mr. Lawrence is a young man, full of enthusiasm and well equipped in his chosen field. He will find the schools in good running order, and a most excellent school spirit in this community. The Journal bespeaks for him a successful experience.

J. W. Barlow, County Superintendent of Shelby County, was re-elected to that office on Monday, March 26; the trustees failed to elect last June, and adjourned. On the above named date, in answer to mandamus proceedings in the circuit court, the trustees met and elected Superintendent Barlow. The trustees were evenly divided politically, but in the secret ballot which was taken, he received eight out of the fourteen votes cast. This will give him four years from this date as his term.

Jessie B. Montgomery, principal City Training School, Ft. Wayne, spent several days visiting the Indianapolis public schools during the last month. She is an excellent teacher herself, and is a sympathetic and helpful guide to those under her tuition. The Journal has watched her growth in the educational work with more than ordinary interest. We go back to the time when she was a pupil under our instruction in the fourth-year grade, and recall pleasantly the unusual interest she manifested in her studies, and the strength she displayed in her classes. She is as sweet-spirited now as she was then, and her success is due largely to the love she has for it.

Will M. Caylor, who teaches the eighth grade in the Noblesville schools, has been remarkably successful in arousing a great interest in U. S. history. Recently he brought into his room the picture of the Battle of Gettysburg, and this is what he says

about it: "I desire to tell you of the interest that I have succeeded in creating in my history work by means of the Gettysburg picture. To say that my pupils enjoy it, is putting it very mildly. I had my class divided into sections, and we studied the picture after school hours. I wish you could have seen the enthusiasm manifested. My school will be favored with an account of the Battle of Gettysburg by a soldier who took part in the battle; so with the study of the picture, the regular work given, and the personal description, I believe I have succeeded in making my history work more interesting than ever before."

Supt. J. W. Hamilton, of Monticello, has prepared a very helpful pamphlet called "Teachers' and Students' Guide." His own introduction will explain fully its purpose. It is not timely, but very helpful:

"The purpose of preparing and printing this 'guide' is to facilitate the use of the sources of information to which the teachers and students of Monticello schools have access.

"From time to time public documents have accumulated and have been stored away as so much rubbish. A little investigation reveals the fact that many of these volumes contain articles that are exceedingly valuable and helpful, and that they should by no means be relegated to the 'attic library.'

"The list of topics here presented should be considered as suggestive, rather than as exhaustive of the sources of information contained in these documents.

"In addition to the indexed articles a list of books is appended which bear upon nature and science study.

Supt. W. H. Hershman, closes his sixth year at New Albany with a commendable record. The equipment of every school building has been improved. The old, unhygienic furniture and blackboard have given place to new; a good working library is found in every building; and the course of study and methods of instruction keep pace with the forward movement of educational thought. In the high school, two extra teachers have been added to the faculty,

the departmental plan of conducting the recitations has been established, and a well-equipped physical laboratory has been constructed equal to the best. One of the evidences that Mr. Hershman is abreast of the times is the fact that he spends his summers in some good educational institution, thus guaranteeing to his teachers and the citizens the best work in his profession, besides showing them that he is truly interested in his work. His wide and extensive personal acquaintance among educational men of the nation gives him many private avenues for obtaining helpful and practical information in directing his work. We feel that his work has done much for the advancement of the schools under his charge, and we bespeak for him even yet better returns from his labor.

Kate Petery, a teacher in the New Albany public schools, has a record for school attendance very few, if any, can equal. From the time she entered school at six, until she graduated from the high school, twelve years, she was neither tardy nor absent. After her graduation, she was appointed teacher in those schools, and for eight years has taught consecutively, not being tardy a single time and absent but once, two and one-half days, on account of a death in the family. Two years of her school life she was a pupil of the editor, and it was easily seen how much interest every pupil in her class took in "Kate's" perfect record. One time in particular we recall an incident that showed the faith the pupils had in her coming. On this morning it lacked but five minutes of "school time," and Kate was not present. When it was remarked that she had not yet come, a chorus of voices answered, "She'll be here," and just then she appeared, having been detained by a freight train standing across the street a square away. We have repeatedly seen mention made of punctual attendance, but we have never seen any that approached this one, a record of twenty years in the school-room without a single case of "behind time," and but one absence. Her remarkable vitality is only equalled by her happy spirit, two essential characteristics in a teacher.

EDITORIAL MENTION.

We are glad to note that many teachers are making use of the *Indiana School Journal* in some of their class work.

We have received a copy of the announcement of the Spring and Summer Terms at the State University. The courses in Nature Study by Dr. D. W. Dennis, and the courses in Pedagogy and Psychology by Dr. William L. Bryan especially for teachers are new features; and we believe that these courses will be very valuable.

The Northern Indiana Superintendents' Club met at Delphi, March 9 and 10. The membership of this club is limited to twenty members, and they nearly always attend with commendable regularity. After a day's visit to the schools, the observations and criticisms were reported and noted. The club then took up the regular discussions on the program, and the informal spirited discussions developed some excellent points. Some of the points discussed were "Half-Day Sessions," "Essentials in Estimating the Teacher," "Revision of Text-Books." On the latter it was the opinion that the State Board of Education should consult with the men who are connected with the schools in the revision of the text-books. Superintendent Ayers was elected president, and Lafayette the next place of meeting.

BUSINESS NOTICES.

The State Life Insurance Company of Indianapolis wants an active young teacher in every town and township in Indiana to solicit life insurance. Large commissions are paid. This is a first-class opportunity for many young teachers to make a snug sum of money at home during the summer months. It pays better than teaching school. An agent of the company will visit and instruct those who desire employment. For particulars, write Mr. R. R. Buchanan, Ass't. Supt., 515 Lemcke Building, Indianapolis, Indiana.

February 26, 1900.

To the members of the National Educational Association:

Referring to the meeting of your Association in Charleston, S. C., July 7-13, 1900, we beg to advise that railways in the territory of the Central Passenger Association, of

which we are members, have, in connection with lines members of the Southern Passenger Association and Trunk Line Association, agreed upon rates and routes as follows:

From points in the Central Passenger Association territory, rates to and from Charleston via any of the Ohio River or Potomac River gateways, will be one fare for the round trip (plus \$2.00 membership fee), going and returning same route, based on rates applying regularly over route traveled.

Those desiring circuitous route tickets can secure same on rates figured sixty per cent. of the regular one-way rates up to Ohio River or Potomac River gateways, plus fifty per cent. of the one-way rates over route traveled south of the Ohio or Potomac rivers, to Charleston (plus \$2.00 membership fee). Parties will have choice of routes via Louisville or Cincinnati, thence via Chattanooga and Atlanta to Charleston, or via Knoxville, Asheville and Columbia, S. C., or via Cincinnati and Lynchburg or Richmond, Va., or via Cincinnati and Washington to Charleston, and returning via Ohio River gateways or vice versa.

For special parties desiring same, through car arrangements can be made. The undersigned will be very glad indeed to furnish detailed information as to rates and routes, on receipts of application.

WARREN J. LYNCH,

G. P. & T. A.,

Cincinnati, O.

W. P. DEPPE,

A. G. P. & T. A.,

Cincinnati, O.

H. M. BRONSON,

A. G. P. A.,

Indianapolis, Ind.

C. L. HILLEARY,

A. G. P. A.,

St. Louis, Mo.

J. E. REEVES,

G. S. Agent,

Cincinnati, O.

C. S. BLACKMAN,

G. E. P. A.,

Buffalo, N. Y.

J. C. TUCKER,

Gen'l Northern Agent,

Chicago, Ill.

TRANSATLANTIC TRAVELERS

Furnished Special Attendants by the Pennsylvania System.

The bureau of attendants for trans-Atlantic travelers established in Jersey City and New York City twenty years ago by the Pennsylvania System, has proven a great convenience to persons making European trips and to tourists arriving in America at that port. It will be particularly convenient for visitors to the Paris Exposition because the departure docks of most of the Atlantic Steamship Lines are convenient to the new Jersey City Passenger Station of the Pennsylvania Railroad Company.

This bureau consists of experienced agents whose duties are to meet passengers arriving in Jersey City and New York over the Pennsylvania Lines and assist them in arranging for trans-Atlantic trips via any of the steamship lines by conducting them to steamships and aiding in preparations for a trip abroad.

These agents will provide cabs operated by the Pennsylvania System and aid passengers with their baggage. They are fully posted on matters pertaining to steamships leaving New York, and arrangements can be made through them for procuring steamship tickets in advance.

They also meet incoming steamships to aid travelers in shaping details for continuing journeys from New York over the Pennsylvania Lines by furnishing tickets, arranging for the transfer of baggage from steamship docks after it has been passed by customs inspectors, and having the same checked through to destination. They will reserve sleeping car accommodations and relieve persons of the foregoing details, making themselves useful as attendants and guides free of charge.

Further information on the subject may be obtained by addressing the nearest Pennsylvania Lines Ticket Agent, or W. W. RICHARDSON, District Passenger Agent, Indianapolis, Ind.

CHARLESTON AND THE N. E. A., JULY 7-13, 1900.

The undersigned will conduct an Indiana party to the N. E. A., at Charleston, S. C., leaving all Indiana points July 5, and centering at Louisville and Cincinnati, where special train will be provided over the Southern Railway. These trains will combine at Lexington and run as a special train through to Charleston. Stops will be made at Asheville and other points of interest. The home trip will be made via Washington, D. C. Stops will be granted at Richmond, Va., and other battlefields en route. The rates this year as granted by the Traffic Associations are 50 per cent. of the regular first-class fare for the round trip, plus \$2, going and returning the same route. But a diversified route may be elected, and the rate for that will be 60 per cent. of the regular first-class fare for the round trip, plus \$2. The membership fee of \$2 goes to the Association. Members of this party will have every detail looked after carefully by an experienced management. Those who are interested in this trip should write for information to either of the undersigned. More detailed information will be furnished

later, giving exact cost from principal points in Indiana, and time of departure of trains.

CHAS. F. PATTERSON,
D. M. GEETING,
Com. Club Bldg., Indianapolis.

OFFICIAL.

Dear Sir—Your letter addressed to the Attorney-General was referred to me for an answer. I am of the opinion that the County Council has no right to limit the number of days which a county superintendent shall work during the year. If they have limited the appropriation, it is still the duty of the county superintendent to do the work which is made obligatory by the statutes, and file his bill in the regular way with the County Commissioners. Failure to pay the bill would bring from the county superintendent a claim against the county in a case before the circuit judge.

Dear Sir—The laws of the State do not indicate that a professional license may be renewed without examination; neither does the State Board of Education have a rule to that effect; therefore, I do not know how you could secure a renewal of your license except by examination. If you had applied for a life State license before the expiration of your professional license, you would have been privileged to take the last division to obtain a license for life.

Yours very truly.

Dear Sir—In answer to your questions, will say that the law requires teachers to make reports to truant officers relative to the attendance of children. The failure of a teacher to make these reports subjects him to the possibility of having his license revoked. Teachers can be compelled to deliver notices to parents, either by mail, by personal carriage, or by sending them through the pupils. A truant officer may prefer charges against a teacher for failure to comply with his request, and the matter should be brought either before the township trustee or county superintendent; probably the latter.

Yours very truly.

Dear Sir—S. B. 73, which became a law by the action of the last Legislature, provides in Section 2 thereof that school trustees shall maintain in each school corporation a term of school at least six months in duration, and shall authorize a local tuition levy sufficient to conduct a six months' term of school each year, based on estimates and receipts from all sources for the previous year. The use of the word "shall" makes it obligatory upon each school community to maintain a six months' term of school. The question arises, what shall be the duty of the trustee in the event his school funds are all expended in maintaining five months of school. There are two ways out of the difficulty.

1. The school might be continued, to include the six months, by requiring teachers to wait until the May or June apportionments to receive their salaries.

2. To call the Advisory Board and ask them to authorize a loan sufficient to conduct the school, for the period necessary after the expenditure of the funds already on hand.

Either plan is lawful, and can be compelled with without any serious inconvenience. It seems necessary to have the sanction of the Advisory Board in either instance.

Dear Sir—All pupils whose parents moved out of the corporate limits of the city of _____ since the taking of the enumeration in April can not attend the city schools this year without transfer, or paying tuition. But pupils whose parents moved into the city from outlying townships since last April should be allowed to attend school free. The residence of the parents always determines where the pupils should attend school.

Dear Sir—In answer to your letter will say, that the County Superintendent has not a legal right to issue without an examination an exemption license to a person who holds an exemption in another county. An exemption license is forfeited if the teacher goes outside of the county to teach. If a license be issued as indicated above, the school board accepts the same to be legal,

the board is responsible for money paid a teacher holding such a license.

Dear Sir—In every case when a dealer wishes to handle books he must purchase them outright from the trustee or school boards, in which case the trustee and school boards must allow the dealer ten per cent. off. It is not within the power of the trustee to dispose of his books in any other way than for cash. No books should be shipped directly to the dealers, but all shipped to the trustees or school boards; after which they can be turned over to the dealers for cash.

Dear Sir—Replying to your favor of _____ will say, that it will be necessary for your County Board of Education to provide for six months' terms of school for the coming year. Of course you can not receive the taxes from the levy made before the end of the school year, but your trustees can anticipate from the local funds from the July distribution of 1900. This can be done for a year or two until funds have been received from the increased levies. After two or three years it will be found that your trustees will not have to anticipate the local fund.

'Dear Sir—I have your favor of _____. In reply thereto will say, that you can not legally contract with some teachers of your township for a shorter term than others. In order to prevent any trouble I would suggest that you reduce all of your schools to seven months, and pay your teachers a little better wages for their work. In this way you would not carry over any money from year to year. It may be that none of your patrons would give you any trouble if you should contract with some of your teachers for a longer term than others. If not, I suppose you would have no trouble from any other source.

FRANK L. JONES,
Supt. Pub. Inst.

Popular prejudice is the most unreasoning of passions, and the people are quite as likely to oppose their best friends as their foes when blind prejudice leads.

BOOKS AND MAGAZINES.

THE EDUCATIONAL REVIEW.

This magazine, which is one of the leading publications of its kind, will be furnished to all new subscribers and renewals to the School Journal for the price of the former, viz., three dollars. Order through the School Journal, cash to accompany the order.

Pres. L. M. Sniff, of the Tri-State Normal School, Angola, Ind., has just issued a small book of model solutions in arithmetic, which is worthy of careful study by the teacher. The models are clear, terse and logical, and show the author at his best. Those who know President Sniff's skill in mathematics will easily see his highest art in this little book. It will certainly prove very helpful to the teachers of arithmetic everywhere. J. R. Holcomb & Co., Cleveland, publishers.

Webster's Collegiate Dictionary is the largest and latest abridgment of the famous International. It contains the essential features of the International. It has complete definitions, adequate etymologies, and indicates pronunciation by familiar diacritical marks and respellings. Its appendix contains vocabularies of names, rhymes and foreign words, tables of arbitrary signs, also a valuable glossary of Scottish words and phrases, with the correct pronunciation of Scottish terms frequently met with in literature. No student or business man can afford to do without this convenient dictionary.

Several interesting numbers have been added to the Riverside Literature Series since the beginning of the school year.

Chaucer's Prologue [No. 135], and The Knight's Tale, and The Nun's Priest's Tale [No. 136], edited by Professor Frank Jewett Mather, Jr., of Williams College. This selection from The Canterbury Tales, especially edited for the Riverside Literature Series, makes a good working book for classes in schools and colleges, as there is an equipment consisting of an Introduction biographical and critical, separate Introductions to the Tales and the Prologue, an Appendix of various readings, and a Glossary. The whole work is done with scholarly care and will repay examination.

Books I, VI, XXII, and XXIV of Homer's

Iliad, translated by William Cullen Bryant [No. 137], are too well known to need special mention here. This number is made more useful for schools by an Introduction, Notes, and a Pronouncing Vocabulary of Proper Names especially prepared for this edition.

Hawthorne's Custom House; and Main Street [No. 138] is autobiographical in a certain sense, as it gives in the first sketch—the Introduction to The Scarlet Letter—an account of Hawthorne's life in Salem when Surveyor of the Port. The other sketch, Main Street, is from The Snow Image and Other Twice-Told Tales. In a very interesting and novel way the history of Salem is picturesquely told. The Introduction for this book relates certain facts about Hawthorne. Notes explain historical allusions.

In the Howells number, a new author is added to the Riverside Literature Series. The book is entitled Doorstep Acquaintance, and Other Sketches [No. 139], and contains four entertaining sketches well representing the author's varied style. The title sketch and A Romance of Real Life are taken from Suburban Sketches, Tonelli's Marriage is from A Fearful Responsibility, and Other Stories, and At Padua from Italian Journeys. There is a very interesting Biographical Introduction, and the necessary Notes.

Each number is bound in paper at 15 cents, net; the two Chaucer numbers (135 and 136) are also bound together in linen at 40 cents, net.

"Friends and Helpers," by Sarah J. Eddy; Glinn & Co., Boston and Chicago.

The author says that her purpose is to teach children to treat all living creatures with considerate kindness, and to appreciate the services of man's helpers in the animal world. This is a laudable purpose. This sort of teaching is much neglected. While children as a rule have tender hearts, they often lack imagination and are ignorant of the actual conditions, and as a result are cruel. Education alone can remedy this. We believe this little book will help to educate the children.

"Art Study Pictures," by the Art Study Company, 356 Dearborn Street, Chicago, is a semi-monthly publication in portfolio form, presenting with each number an assorted group of ten reproductions from fam-

ous paintings, ancient and modern. These seem especially available for art clubs or individual culture, and pleasant to possess besides. The cover is quaint with old English lettering and decorative poster design, and just inside is a life-sketch of the artist—or general article on the artist-group—illustrated in the number. Foot notes give references for more extended readings. Then follow the reproductions on separate leaves of strong white paper, nine and a half by seven and a half inches, the half-tone prints, from copper plates, being five by seven inches, and exceptionally fine in clear detail and faithful light and shadow.

ANSWERS TO STATE QUESTIONS.

READING.

(Based on general field of Reading.)

(Any five.)

1. Is it proper to teach the pupil that he should read just as he would converse?
2. By which method will the pupil master the thought of the selection best—silent or oral reading?
3. What would be the advantages and disadvantages of substituting the daily paper for the reader?
4. Would the general result be good, as to author and reader, if all punctuation marks were omitted?
5. In what tone should the following lines be read:
 "Touch not these ancient elms that bend their shade
 O'er the patriots' graves, for 'neath their boughs
 There is a solemn darkness even at noon
 Suited to such as visit at the shrine
 Of serious liberty. No factious voice
 Called them unto the field of generous fame,
 But the pure, consecrated love of home."
6. Should the pupil be urged to think of the punctuation marks while in the process of reading? Why?
7. Read this selection to the Superintendent:
 "And you call that fellow a poet, do you? A poet! He could never make the rhymes jingle in his doggerel. A poet! Ha! ha! ha! That's the last thing I should ever think of calling him."

(Based on "How to Teach Reading.")

(Any five.)

1. In what "pitch" should the following be read:
 "Antonio, I am married to a wife
 Which is as dear to me as life itself;
 But life itself, my wife, and all the world
 Are not with me esteemed above thy life:
 I would lose all, ay, sacrifice them all
 Here to this devil, to deliver you."
2. What is the difference between "logical contrasts" and "emotional contrasts"?

3. What is meant by the statement that the reasons for "low pitch" or "high pitch" are psycho-physiological?
4. What is the difference between loudness and force?
5. Which is better, to detain a pupil on a few selections till he masters the expression of them, or to have him read extensively?
6. How can a pupil best be taught the expression of emotion?
7. "Group" the following:
 "Of man's first disobedience, and the fruit
 Of that forbidden tree whose mortal taste
 Brought death into the world, and all our woe,
 Sing, heavenly muse, that, on the secret top
 Of Oreb, or of Sinai, didst inspire
 That shepherd who first taught the chosen seed
 In the beginning how the heavens and earth
 Rose out of chaos." * * *

Answers.

1. It is, with the additional caution that the force and the distinctness be increased, that all the listeners may hear easily and distinctly. As one writer puts it, "Read in a natural way, in a conversational manner, but not with conversational force and articulation." The voice must be sent out into the audience.

2. Generally, he will get the thought best by oral reading, for the sound of the voice aids the thinking process and the power of imagination or picturing. (See S. H. Clark in "*Werner's Magazine*" for March; and "*Literary Digest*" for March 31.)

3. The advantages would be (a) the gathering in of a knowledge of current events; (b) the learning of a practical business vocabulary. The disadvantages would be (a) the absence of a pure literary style; (b) the absence of special lessons bearing upon travel, science, morals, and literature in general; (c) the presence of matter wholly unfit to place before the minds of pupils in the formative period of life.

4. The general result would not be good, for then the effort, or power, of the reader would be divided, part of it engaged in blocking out the phrases and sentences, and part of it in interpreting the meaning. This "division of labor" in this instance would delay progress and weaken efficiency.

5. The name of the kind of tone is variously designated as grave, orotund, or plaintive; the tone really would possess each one of these distinctive attributes.

6. He should not; for this means divided attention (see answer to 4). After a little experience, the advantages derived from the presence of the punctuation marks are soon gathered in by the mind in a kind of automatic manner;

there is no necessity for giving them such attention as would mean reflection; this would mean delay and poor reading.

(Based on "How to Teach Reading.")

1. In a low pitch.
2. Logical contrasts are contrasts between shades of thought bearing upon reason; emotional contrasts are between those shades of thought bearing upon feeling. The former are generally read in medium or low pitch; the latter is high pitch. There is no infallible rule, however, for in every case the mental content will affect the pitch.

3. It means that the state of mind determines the tension of the nerves and muscles used in vocal expression. (See page 49 of "*How to Teach Reading*.") Nerve tension means muscular tension, and, since the muscles controlling the vocal chords are subject to the same laws as the other muscles, the greater the tension the higher the pitch. Hence, since what we have called the controlled states are accompanied by relatively low muscular tension, it necessarily follows that they will be expressed in relatively low keys.

4. Loudness alone means a big voice without quality. Loudness alone simply enables one to be heard at a great distance, or amidst noise and confusion; but it does not carry with it conviction, nor does it stir the nobler emotions of an audience. It does not indicate *mental* energy, while force does manifest the degree of mental energy, and frequently is expressed in a low tone. (See pages 84 and 101.)

5. It is better to detain a pupil on a few selections until he masters the expression of them, for the power gained by the careful systematic work in them will make the progress thereafter much more rapid.

6. By stimulating the imagination. (See page 172.)

7. "Of—man's—first—disobedience, and—
the—fruit—
Of—that—forbidden—tree—whose—
mortal—taste—
Brought—death—into—the—world, and
—all—our—woe,
Sing, heavenly—muse, that, on—the—
secret—top—
Of—Oreb, or—of—Sinai, didst—inspire—
That—Shepherd—who—first—taught—
the—chosen—seed—
In—the—beginning—how—the—heavens
—and—earth—
Rose—out—of—chaos."

ARITHMETIC.

(Answer any six, not omitting No. 2.)

1. What is the Grube method in number teaching? Illustrate.
2. Add 545982; 606819; 146609; 889478; 395777;
885092; 323459; 478949; 339948; 667848;
769949; 876329; 448867; 732345; 539656.
3. A school city that has an assessed valuation of \$121,526,341 must meet an annual expenditure of \$722,410. Allowing that 2% of taxes levied are not collectible; what rate must be levied to meet the expenditure?
4. Should pupils learn the Metric System? If so, what devices would you employ in the instruction? Give reasons for your answer.
5. A ladder 78 feet long stands perpendicularly against a building. How far must it be pulled out at the foot that the top may be lowered 6 feet?
6. If I buy stock through a broker who charges $\frac{1}{8}\%$, how much must I invest in stock at 153, paying 9% dividends, to secure an income of \$1,350.00?
7. Algebra. A boatman can row 14 miles an hour with the tide; against a tide two-thirds as strong he can row only 4 miles an hour. What is the velocity of the tide in each case?

Answers.

1. The Grube Method is a method of teaching Primary Arithmetic, extensively used in Germany. The principle of this method is, that it makes each individual *number*, instead of the *operations*, the basis of the instruction; and combines in each lesson, from the start, the four fundamental operations. Thus, in treating the number 2, "all the operations possible within the limit of this number" are performed in the same lesson. Thus, the child is taught that $1+1=2$, $2 \times 1=2$, $2-1=1$, $2 \div 1=2$, $2 \div 2=1$, etc. In teaching the number 4, the lesson is $1+1+1+1=4$, $4-1=3$, $4 \times 1=4$, $4 \div 1=4$; $2+2=4$, $2 \times 2=4$, $4-2=2$, $4 \div 2=2$; $3+1=4$, $4-3=1$, $3 \times 1+1=4$, $4 \div 3=1$, and 1 remaining, etc. The whole circle of operations is exhibited and taught in treating each individual number.

2. Answer, 8620106.

3. Answer, .006+, or 6 mills on the dollar.

4. They should. The "devices" to be employed are a meter stick and a yard stick; a foot rule with inches (and its divisions) marked on one edge, and decimeters (and its divisions) marked on the other. From these divisions, learn well the centimeter, the square centimeter and the cubic centimeter, and practice drawing them and cutting them out of suitable material. From the weight of a cubic centimeter of water we get the gram, the unit of measure for *weight*. One cubic centimeter of water is equal to 1 milliliter, one-thousand of which is equal to one *liter*,

the unit of measure for *capacity*; one hundred square meters are equal to one *ar*, the unit of measure for *surface*; and one cubic meter is equal to one *ster*, the unit of measure for *volume*. In teaching the metric system, keep in view that the fundamental unit of measure is the meter; all the others are derived from it.

5. Hypotenuse=78; one leg=72; the other leg is equal to $\sqrt{(78)^2 - (72)^2} = 30$.

6. For a 9 per cent. dividend to secure \$1,350, the stock must be $\$15,000 (1,350 \div .09 = 15,000)$, or 150 shares. One share will cost $\$153 + \frac{1}{8} = \$153\frac{1}{8}$; 150 shares will cost 150 times $\$153\frac{1}{8}$, or \$22,968 $\frac{1}{8}$.

7. Let x = the boatman's rate of rowing and y = the velocity of the tide,

$$\begin{array}{l} \text{then } x + y = 14 \\ \text{and } x - \frac{2y}{3} = 4 \end{array} \quad \left\{ \begin{array}{l} \text{Subtracting, } \frac{5y}{3} = 10; \frac{y}{3} = 2; \\ y = 6. \\ x + y = 14; x + 6 = 14; x = \\ 8. \frac{2y}{3} = 4. \end{array} \right.$$

HISTORY.

(Any five.)

1. What cities in Europe were especially interested in commerce with the East Indies in the 15th Century, and by what routes was this commerce carried on?
2. What European nations sent out expeditions of discovery and to what parts of America did they lay claim respectively on account of discovery?
3. On what grounds did the Colonies resist the taxes levied on them by the English Parliament?
4. Why has Burgoyne's defeat been classed as one of the decisive victories of the world's history?
5. Give a brief history of the invention and development of the Electric Telegraph.
6. What was the Kansas-Nebraska bill and who was its author?
7. What was the plan of operation of the Union forces in 1864?

Answers.

1. Genoa and Venice were especially interested in commerce with the East Indies in the 15th century. The merchants of Genoa sent their ships to Constantinople and the ports of the Black Sea, where they took on board the rich fabrics and spices which, by boat and by caravans, had come up the valley of the Euphrates and Tigris from the Persian Gulf. The merchants of Venice, on the other hand, sent their vessels to Cairo and carried on their trade with the East, through the Red Sea. (See McMaster.)

2. Spain: all of North America; it was afterward limited to the southern portion.

England: all of North America; it was afterward limited to the middle portion.

France: all of North America; it was afterward limited to the northern portion, and part of the center.

Holland: the territory adjacent to the river Hudson and Delaware.

Portugal: the eastern portion of South America; it was named America, and approximately consisted of what is now Brazil.

3. In a declaration the colonists asserted their rights to be as follows: 1. Life, liberty and property. 2. To tax themselves. 3. To assemble peaceably to petition for the redress of grievances. 4. To enjoy the rights of Englishmen and all the rights granted by the colonial charters. These rights it was declared had been violated; and they resisted the taxes levied on them because they wished to exercise the right to tax themselves; and because they had no representation in Parliament.

4. The results of the capture of Burgoyne were as follows: It saved New York State; it destroyed the plan for the war; it induced the king to offer us peace with representation in Parliament, or anything else we wanted except independence; it secured for us the aid of France; and judged by its results it has been classed as one of the decisive victories of the world's history.

5. Franklin said in 1750: "There are no bounds (but what expense and labor give) to the force man may raise and use in the electrical way." But for more than three-quarters of a century after that philosopher made his experiments, little was accomplished in the direction which he had pointed out. Then (1831) Professor Joseph Henry (later connected with the Smithsonian Institute) invented an electro-magnet which would transmit a current over a mile or more of wire, and ring a bell at the farther extremity. Taking a hint from this apparatus, Professor Samuel F. B. Morse invented the first recording telegraph which would make permanent intelligible characters. Professor Morse's partner, Mr. Alfred Vail, developed and perfected these characters, and so formed the "dot-and-dash alphabet," which was finally adopted. But electricity had not yet been compelled to fulfill its task. The current failed after it had traveled a short distance. The question was how to overcome this difficulty. Mr. Morse said: "If it will go ten miles without stopping, I can

make it go around the globe;" but it would not go ten miles. At length, after many failures, he succeeded in inventing a relay-magnet which would reinforce the current and send it to any distance. Then the problem was solved. Professor Morse then petitioned Congress to grant him \$30,000 to build a line between Washington and Baltimore. Congress took up his bill and passed it without division. The spring of 1844 saw the Washington and Baltimore telegraph line completed and in working order. On May 24, Professor Morse, sitting in the old Supreme Court room in the Capitol, sent over the wire these words, quoted from Scripture: "What hath God wrought!" Two days later the national Democratic convention, then in session in Baltimore, flashed the report of Polk's nomination to the presidency to Congress. The following day (May 27, 1844) the heading "Telegraphic News" appeared in a Washington journal for the first time in the world's history; it has never since been dropped. Professor Morse lived to see his line of forty miles multiplied in the United States more than three thousand fold; he saw the American continent (1856) crossed, and the Atlantic ocean (1866) cabled by permanent electric wires.

6. By the Missouri Compromise of 1820 slavery was forever prohibited in the Louisiana Purchase north and west of Missouri, or north of the parallel of 36° 30'. In 1854, Stephen A. Douglas, a Democratic Senator from Illinois, claimed that the Compromise of 1850 had repealed the Missouri Compromise; moreover, that Congress had no constitutional right in 1820 to shut out slavery from the Louisiana Purchase. He therefore proposed the erection of the two territories of Kansas and Nebraska, in which the settlers should decide whether they would have slavery or not. This measure, known as the Kansas-Nebraska Bill, became a law in 1854.

7. The plan, which had been agreed upon by Grant and Sherman, was as follows: Grant, with the army of the Potomac, was to drive back Lee and take Richmond. Sherman, with the army of the Cumberland, was to attack Johnston and push his way to the sea. Each was to begin his attack on the same day (May 4, 1864).

SCIENCE OF EDUCATION.

(Any five.)

1. What is understood by the "institutional" conception of education, and what by the "individual" conception?

2. Explain the term "social individualism."
3. Show that these two apparently contradictory statements are not in fact contradictory: The individual exists for society. Society exists for the individual.
4. On which of the two theories referred to in question one would the history of civilization, sociology, literature, ethics and art have properly a place in the school curriculum? Justify your answer.
5. What are the objections to the extension of the common school curriculum?
6. What were the chief characteristics of the education of ancient Rome?
7. What features, if any, in the education of Rome are worthy to be preserved in our systems of training?
8. What do you consider the principal defects of Roman education?
9. What new conception of the individual human being did Christianity give to the world that has important educational bearings?
10. A recent writer on education says: "Human life is an unbroken unity, and our early years, like the infant oak, contains the elements of our future being." Show that this is an important educational conception.

Answers.

1. The old institutional conception of education was that the public school system was isolated from the individual in its policy and methods in the sense of dependence, and that the individual existed for the institution. The individual conception of education is that the individual does not exist for the institution but contrariwise.

2. Out of the two foregoing conflicting notions an ideal seems now to be rising, truer than either—the ideal of social individualism. This ideal embodies the growth and development of man on the one side and the institutions of society on the other, each acting reflexively upon the other to the advantage of both. It is the education which properly fits man to become a member of society and to take part in its institutions, and to fit the institutions to become worthy of man.

3. The individual in all his relations is the center of every rational educational system. He is the specialized or focused functioning of society, and, conversely, society is the whole functioning of the individual. The individual is society acting in a certain direction. Society, for its part, is the complete activity of each individual.

4. On the theory of the individual conception of education. These additions would be in keeping with the ever-widening interests of the individual child, and would not be an additional

burden, by reason of their interrelations with each other and with the other subjects in the curriculum.

5. (1) That the course is already overcrowded with subjects, so that the days are too short for their tasks, and both teachers and pupils are burdened beyond their strength; and (2) that such subjects as are here added are beyond the comprehension of primary school pupils.

6. Physical education: taught to ride, run, leap, box, and swim; also military drill. Mental education: reading, writing, arithmetic, oratory; poets and the speeches of senators. The nature of the state and the regulations of the past. The method by which the state could be best served. The laws of the Twelve Tables. Manual education: industrial trades of the parents.

7. Nearly all of the features mentioned in (6) are worthy to be preserved in our present systems of education.

8. The neglect of the moral side of human nature, and of those features that appeal to the social element in a refined way; such as music, drawing, and painting.

9. It gave the new conception that there is a perfect type of life in the Christ-man. This life is our ideal towards which we constantly strive in our weak human way; at the basis of such a life is moral character, and the building of character becomes thereby the chief aim in education.

10. It is an important educational conception, for "As the twig is bent, so is the tree inclined." The habits of life, the ideas that have been dominant in the child's mind, the opinions that he has reached,—all strongly influence his future career. If his habits of speech and action are commendable, if his ideas and opinions are of the noble type and in upward lines, his future is already assured of success and happiness.

GRAMMAR.

(Any seven, not omitting 8th, 9th and 10th.)

What, then, are the proper encouragements of genius? I answer, subsistence and respect, for these are rewards congenial to its nature. Every animal has an aliment peculiarly suited to its constitution. The heavy ox seeks nourishment from earth; the light chameleon has been supposed to exist on air; a sparer diet even than this will satisfy the man of true genius, for he makes a luxurious banquet upon empty applause.—*Goldsmith*.

1. Name the principal clauses in the above selection. The subordinate clauses.
2. Parse (a) "then," and (b) "this."

3. Analyse—"Every animal has an aliment peculiarly suited to its constitution."
4. Underscore with one line the subject and with two lines the predicate of each subordinate clause.
5. (a) Select one infinitive and one participle and tell how they are used.
(b) Give the modifiers of "sparer."
6. Select an adverb in (a) the positive degree; (b) an adjective in the comparative degree. (c) Select two adjective phrases; (d) two adverbial phrases.
7. Give the syntax (case and reason) of (a) subsistence; (b) respect; (c) rewards; (d) diet.
Give the voice and tense of "has been supposed" and "will satisfy."
8. What is the purpose of composition work?
9. Give your opinion of the main objects to be kept in view, and the method and means to be used in teaching the English language in the first four grades.
10. Write from 15 to 20 lines on one of the following topics, expecting that it will be criticised upon its spelling, paragraphing, grammatical construction, and sentence structure:
(a) A Visit to the County Seat.
(b) The Study of Drawing in School.
(c) Factory Life.

Answers.

1. The principal clauses (those that have subordinate clauses) are as follows:

(a) I answer.
(b) A sparer diet even than this will satisfy the man of true genius. The subordinate clauses are as follows:

(a) Subsistence and respect (are the proper encouragements of genius).

(b) For these are rewards congenial to its nature.

(c) For he makes a luxurious banquet upon empty applause.

2. (a) "then" is a co-ordinate connective, meaning in that case, and serves to connect its clause to the preceding clause. Webster calls it a conjunction; the grammars call it a conjunctive adverb. (b) "this" is an adjective pronoun, used as the subject of *is* understood.

3. This is a simple declarative sentence; subject—*animal*, modified by *every*, an adjective; predicate—*has*; object—*aliment*, modified by *suited*, a past passive participle; *suited* is modified by *peculiarly*, an adverb, and by *to its constitution*, a prepositional adverbial phrase.

4. See answers to 1. In (a) *subsistence* and *respect* are the subjects; (are encouragements) understood is the predicate. In (b), *these* is the subject, and *are rewards* is the predicate. In (c), *he* is the subject and *makes* is the predicate.

5. (a) *to exist* is an infinitive used as a predicate adjective; *suited* is a past passive participle

used as an adjective, and modifies *aliment*. (b) The modifiers of "sparer" are *even*, an adverb used to intensify the meaning; and *than this (is)*, a subordinate clause.

6. (a) *peculiarly* is an adverb in the positive degree;

(b) (*sparer*) is an adjective in the comparative degree;

(c) *of genius* and *of true genius* are adjective phrases;

(d) *to its nature* and *to its constitution* are adverbial phrases.

7. (a) *subsistence* and (b) *respect* are nominative subjects of *are* understood; (c) *rewards* is a predicate nominative; (d) *diet* is the subject nominative of *will satisfy*; (e) *has been supposed* is a verb in the passive voice, present perfect tense; (f) *will satisfy* is a verb in the active voice, future tense.

8. The purpose of composition work is to develop in the pupil the power of expressing himself clearly and correctly in good English.

9. See State Manual, pages 102 to 112, inclusive. These four years' work (a) should make the pupil familiar with about 3,000 words; (b) should give the pupil power to express himself correctly in many of the common forms of speech; (c) should give the pupil power to write easy sentences correctly as to spelling, capitals, and punctuation.

The means should be the collected vocabularies of the teacher and pupil, the conversational exercises, the school readers and other readers, pictures, objects of various kinds, system, patience, and cheerfulness. The methods should be short, frequent exercises—oral and written, conversational lessons and wise and systematic questioning.

PHYSIOLOGY AND SCIENTIFIC TEMPERANCE.

(Any seven.)

1. What is the relation of a nerve cell to a nerve fiber?
(b) Of a nerve fiber to a nerve?
2. In what two ways does the skin regulate the temperature of the body?
3. Describe the actions by which air is brought into the lungs.
4. What may be absorbed from the stomach?
(b) What from the small intestines?
(c) What from the large intestines?
5. What constitutes the circulatory system?
6. Explain the fermentation of wine when exposed to the air?

7. Name four forms in which opium is most frequently used?

8. What is the effect of tobacco upon the muscles?

Answers.

1. A nerve fibre carries the *influence* that a nerve cell originates. A nerve fibre is a part of a nerve.

2. The skin regulates the temperature of the body (a) by increasing or decreasing the surface circulation of the blood; (b) by the effects of perspiration.

3. Muscles raise the ribs and expand the chest; the diaphragm flattens its arch and makes the chest deeper; these movements bring the air into the lungs.

4. (a) From the stomach there may be absorbed the albuminose of the digested proteids, the glucose of the grape sugar, and various liquids.

(b) From the small intestine there may be absorbed the glucose of the cane sugar and the starch, the emulsified product of the fats, and the albuminose and the various liquids that have passed the pyloric orifice.

(c) From the large intestine, water, and the products of delayed digestion, generally from starchy and fatty matters, are absorbed.

5. The heart, arteries, capillaries and veins constitute the circulatory system.

6. Everywhere there are scattered minute living germs, which, falling into the wine exposed to the air, grow and produce oval plants, each about $\frac{1}{1000}$ inch in length. A collection of these plants is called *yeast*. By their growth and multiplication they change sugar to alcohol and carbon-dioxide. The gas bubbles up through the liquid and makes a froth upon the top, while the alcohol remains in the water. If only a small quantity of sugar is present another kind of germ from the air enters and grows, becoming tiny rod-like plants, each about $\frac{1}{10000}$ inch in length. By their growth and multiplication they change the alcohol to vinegar. They collect in a mass called *mother of vinegar*. Changing sugar to alcohol or vinegar is an example of fermentation.

7. Laudanum, paregoric, soothing sirup, morphine, Godfrey's cordial, narcline, thebaine, and many others.

8. In time, the muscles are deprived of the power of their fine and delicate action, and are stricken with a kind of tremulousness that prevents them from executing skillful movements. Their nerves do not respond well to stimuli and the surface circulation is not so vigorous.

GEOGRAPHY.

(Any eight.)

1. Why is it warmer at the equator than at the Tropic of Cancer? What are heat belts?
2. Discuss ocean currents of the Pacific Ocean.
3. State approximately the number of people to the square mile in Indiana.
4. How are icebergs formed?
5. What is the Piedmont belt?
6. Where are each of the following: Cavité, Johannesburg, Iloilo, Guam, Honolulu?
7. What do plants absorb from the atmosphere?
8. What are the sources of special school and tuition funds used to support the common schools of this State?
9. What is the source of rubber? From what countries is it obtained?
10. How does the government of the Indian Territory differ from that of the Territory of New Mexico?
11. What are folded mountains?

Answers.

1. The average slant of the sun's rays for the year is less at the equator than at the Tropic of Cancer; when the sun's vertical rays fall south of the equator, the rays that fall on the northern tropic are much inclined. Heat belts are divisions of the earth's surface on the basis of similarity in mean annual temperature.

2. In the North Pacific a broad equatorial drift passes westward toward the Asiatic coast, then becoming in part a north-moving current, it proceeds as a very distinct stream, in many respects resembling the Gulf streams. This is known under the name of the Kuro Siwo, or better as the Japanese current. It passes northward, is turned to the right, then moves southeastward, bathing the western coast of the United States, then curving to the southwest, it joins the equatorial drift. Owing to the fact that land practically excludes the Arctic waters from the North Pacific, there is no distinct Arctic current in this ocean, nor is the Japanese current able to extend a large branch into the Arctic. Still a small current of cold water does pass through Bering Straits into the North Pacific. In the South Pacific a whirl of water is produced but there is no current so marked as the Japanese current. A cold current from the Antarctic extends into the South Pacific.

3. About 61.

4. The cold winter causes the ocean surface to become frozen very thick; and the movement of the waters resulting from the winds, currents, and tides, often breaks this ice and throws it into

hummocks, so that during this season the water presents a rough ice surface. During the summer this partly or entirely breaks up, and the ice either melts or floats away. Added to this *floe ice* are the icebergs which are derived from the margins of glaciers extending into the ocean. As the ice moves into the sea, the buoyancy of the water causes it to break into fragments when they drop into the ocean and drift away.

5. The rolling or hilly slope at the foot of the old Appalachian Range extending from Maine to Georgia.

6. Cavité is on the southern shore of Manila Bay; Johannesburg is in the South African Republic, about fifty miles south of Pretoria; Iloilo is on the island of Panay in the Philippine group; Guam is one of the Ladrone Islands, 1,500 miles east of Manila; Honolulu is the capital of the Hawaiian Islands, on the south side of Oahu.

7. In the daytime, and especially during sunshine, they absorb carbonic acid gas, and they give off oxygen. During the night this process is, to a slight degree, reversed—they then absorb oxygen and give off carbonic acid gas. It must be borne in mind, however, that these facts are true only of the green parts of the plant; for the other parts, such as the flowers, even in daytime, absorb oxygen and give out carbonic acid gas, the amount, however, being trifling.

8. See School Law of Indiana, pages 44 and 128.

9. India rubber is made from the milky sap of various trees and shrubs. Cuts are made in the bark into which cups are inserted for collecting the sap. This is afterwards hardened by heat, the smoke giving it a dark color. It is further hardened by sulphur. The trees and shrubs grow in Brazil, Central America, Africa and Sumatra.

10. New Mexico is an organized territory. The governor and the administrative and judicial officers are appointed by the President, but a territorial legislature is entrusted with limited powers, subject to the approval of Congress.

Indian Territory has no regular territorial government, but each Indian tribe governs itself under the supervision of Federal officers. For the enforcement of United States laws it is attached to the western judicial district of Arkansas.

11. Folded mountains are those in which rock folding has entered as a prominent factor in formation.

Indiana School Journal

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PUBLISHED BY D. M. GEETING
EDITORS: D. M. GEETING, GEO. F. BASS
ASSOCIATE: E. B. BRYAN

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INDIANA SCHOOL JOURNAL

VOL. XLV.

MAY, 1900.

NUMBER 5.

SOME STANDPOINTS AND SOURCES OF NATURE STUDY.

E. B. BRYAN, ASSOCIATE PROFESSOR PEDAGOGY, INDIANA UNIVERSITY.

One of the more recent subjects that have been introduced into the schools is that of nature study. Like many things that come to pass, it gained admittance not so much because there were those who had clear, definite, rational conceptions of its matter, method and many-sided value, but rather because of the prevailing feeling that the schools were not reaching the child on all sides of his life, and were, in so far, failing to realize our highest hopes and expectations. The advances made in science, both biologic and social, within the last twenty-five years, have had a very strong influence in turning us away from the adstrack contentless speculative tendency so characteristic of the thought of the middle ages, and in re-emphasizing the three fundamentals not only of economic but of all life, viz., food, clothing, and shelter. Alexander was grateful to his father for life, and he was grateful to his preceptor, Aristotle, for the right kind of life. And so it will always be, to live at all is the first requirement; only upon this as a basis may we hope for life, good, true, and beautiful.

Spencer in his *Education* brings out essentially the same point in his chapter on "What Knowledge is of Most Worth." He makes direct self-preservation—the struggle for mere existence—of primary worth, not simply because it is chronologically first, but because it is both logically and biologically first; it is fundamental. Then comes indirect self-preser-

vation—the struggle for a somewhat higher form of existence—which is followed by knowledge which will help in the preservation of the species or race—or social knowledge. The demand in the first and second cases is largely if not exclusively a demand for biologic knowledge, viz., a knowledge of what will cure and what will kill. In the third stage we have a hint at the demand for social knowledge. If we are evolutionary scientists I think we can see that Spencer's scheme fits the facts of biologic evolution exactly; if we are students of history I think that we can see just as plainly that his scheme fits the facts of historical evolution; and if we are students of children we know the scheme fits their order of development remarkably well. We have here, it seems to me, a key for the solution of the problem of the relative emphasis to be placed upon social education at different ages, and I must say in passing that there is apt to be too much made of this phase of training in the elementary schools and too little in the secondary and higher schools.

If the study of the development of the race and the child means anything to us, it must mean that the first years are the ripe ones for the study of nature and that strictly social aims must be held as of secondary importance, to be realized rather incidentally than directly. In this paper I wish to discuss very briefly some of the different standpoints and sources of na-

ture study. We have the so-called mythopoetic standpoint. Out of misinterpreted nature, myth was born, and in it early poetry found its subject. The mysterious in nature to the child to-day may serve as a foundation for early religious training. Out of what was once misunderstood nature, have developed the various sciences—botany, zoology, physics, chemistry, astronomy, etc. So in myth we have the roots of much that is authentic in both sacred and secular history and literature. This standpoint would have the child view nature not with glass and knife, not as an analyst would, but in its entirety, in its full force and mystery, much as the mythologist and poet view it.

A view that is being strongly emphasized by agricultural schools and colleges is what may be called the human value relation or standpoint. The thought is that much loss in animal and plant life that is daily sustained and much of the misery which people experience might be averted if we knew some of the simplest facts about the life and habits of the most commonplace and familiar objects of nature about us. It is a very easy matter for a community to wage war against certain birds with a view to their extermination without knowing that the amount the birds would have eaten is infinitely small in comparison with the destruction of crops in fields, orchards and gardens by insects which the birds would have destroyed had they been allowed to live. A six-year-old child can be taught this fact just as well, and often more effectively, than his sixty-year-old grandfather. Recently a simple remedy for the prevention and removal of what is known as the "black knot" in fruit trees has been found. This remedy means both money and beauty to the community that uses it.

Laws have already been established in Kentucky, New Jersey and Canada by which special attention is directed to the plum-tree scourge of the black knot, and efforts are made to kill it out of the region. It seems to me that while the standpoint of human values is but one of many it is nevertheless one never to be ignored. It has one advantage over almost any other in that it appeals more strongly to the masses whose sympathy needs to be enlisted if the work is to be general in its application and effect.

Then there are those who look at the problem from the standpoint of ethical values. Work in nature study, they think, can be so planned and conducted as to bring out ethical lessons of great value. Lead the child to see why it would not be right to raise Canada thistles in his gardens; why he may not keep pigs and chickens in the city; that the community must be protected from diseased animals and plants. The thought is that here is an opportunity to show the child early in life that because he is a member of society there are some things he may do and some things he may not do. He will form the habit of considering not only whether a thing is good or bad for himself alone but for the community as well. It seems to me that so far as there is to be social training at this time this offers a splendid opportunity. Others still, and these are to be found mostly in large cities, emphasize the aesthetic value of nature study. No forms of the beautiful appeal to the child as do the forms to be found in nature. Not only have dingy, bare school-rooms been transformed from veritable prisons into beautiful, attractive places for the children by the introduction of plants and plant study into the school, but into the life of the child has come a transformation equally beautiful, and

often the effect it not limited to the child itself, but is carried to the home and the entire community.

Those who view the school as an institution whose chief function is information giving look at nature study as at everything else, from the standpoint of intellectual values. The theory is that here is an opportunity for gaining useful information, and cultivating the intellect, and the opportunity should be seized as one especially conducive to these ends. It serves as a center of interest around which vast fields of useful, but, to the child, uninteresting and unexplored fields of information lie. One child whose special care was a plum tree learned not only the story of the tree but of other varieties of plums and other fruits as well. One boy to whom was given a calf, to which he became fondly attached, before he reached his teens was an authority on the different breeds of cattle, the varieties and relative values of different kinds of food-stuffs, their method of production, etc.

Many things easily thought of and suggested would not be practicable in the schoolroom, but I can give here only a few of the most striking illustrations of the principle, with the hope that the teacher will apply the principle in her own way, and not be lost in my illustrations. Doubtless one teacher will do better work from one of the foregoing standpoints and another will do better work from another standpoint. It must not be forgotten that no one, not even all, of these standpoints is all-inclusive. It might be well in a system of schools to work from one standpoint the first year, from another the second, and so on. And what will determine which shall come first, second, third, etc.? The interest of the children must largely determine this for us. Here we get a hint once more of

how intricately related are all the problems in pedagogy and how apt one is to miss the mark who tries to interpret them from some little preconceived educational theory. One is not ready to plan a course in nature study who does not know the last and best things in child study, and the reverse is just as true.

In regard to sources, I need say but a word. We know how slowly the study of science in the schools of Indiana progressed as long as it was based entirely upon textbook work, but when Jordan and Coulter and Dennis and doubtless others whom I did not have the good fortune to know brought their students face to face with nature, with actual plants and animals, and with actual hills, plains and valleys, and used the books as guides and supplements only, the eagerness with which young people took up scientific work was something marvelous. So it will be in the study of nature with children. The teacher who tries to conform her work to a manual on nature study is apt to find the work dull, uninteresting and productive of meager results, although many valuable suggestions may be gotten from such sources, and they should by no means be entirely discarded. There are, however, book sources that will help us in a way that no formal outline or manual can, and these are the books written by lovers of nature; not the books of the analyst or dissector, but the books of the poets, the books of the human songsters. Go to your Emerson, your Longfellow, Lowell, Thoreau, Whittier, Bryant, Walt Whitman, Tennyson, Wordsworth, Shelley, Celia Thaxter, and innumerable others. Go to our own Whitcomb Riley and W. W. Pfrimmer, if you would hear nature's song fresh and unadulterated. Such are the most valuable literary sources in the study of nature, but the most inviting

and exhaustless source is the book of nature itself. The teacher need not be a scientist. The scientific attitude is not what is most needed; a storehouse of technical information can not in itself do the work. It would be better, but it is not even necessary to know the names of many plants and animals and mineral specimens. These things are all right in their places. There is a work in the world the poet can not do. There is a work in the world the scientist alone can do, and one result of the work for which I am making a plea should be that it serves as an excellent introduction to the more scientific study

of nature. But what I am trying to emphasize is that this is not the time for close, critical work. A teacher's fitness to do the work does not consist so much in the amount she knows about nature as it does in the amount she loves nature, and would like to know about it. So far as possible let the children live with it and in it. An elementary school without nature study is neglecting the most fundamental and primary elements in education. We must not fail to let first things come first. Next month I wish to suggest a graded course in nature study.

ETHICAL TRAINING DURING ADOLESCENCE.

SANFORD BELL, DEPARTMENT OF PEDAGOGY, STATE UNIVERSITY, BLOOMINGTON.

I have thus far tried to emphasize the following: (1) That the child's moral education begins at birth; (2) that every experience has a moral content and counts in the formation of character; (3) that the dominant side of the child's life is emotional, and is mainly consumed in satisfying organic and special sense impulses, that these are nature's aggressive principles that make the child active in coming in contact with his environment rather than passive in being affected by it; (4) that the complex life into which the child is born is the accumulated wisdom of the race, and his inheritance, that it is ethical and orderly; (5) that the essential education is the formation of a set of habits that conform to the ethics of the family, school, church, state and society; (6) that the child learns these through imitation and prescription; (7) that he does not know right and wrong as such, but he does know them through permission and prohibition; (8) that the life he is to reduce to habit is infinitely complex, the task

enormous, and that we expect too much of the child.

At the period of adolescence the youth breaks away from prescriptive direction, and begins to take charge of himself. It is the most critical period of life, for two reasons: (1) He rejects the insight of others; and (2) he hasn't enough of his own to guide him aright. The habits which he has formed during childhood will be a very large part of his salvation at this time. This is one of the very strong arguments for early ethical training. The habits he learns during childhood are moral; they represent the wisdom of the race. They are powerfully conservative, and give ballast, and tend to offset the rashness and impetuosity of early adolescence. They also are dynamic as embodying the spirit of racial progress, and have a momentum that tends to carry this erratic, impulsive, willful being in the right direction.

The first thing of great importance in the ethical training of the adolescent is

the attitude of adults toward him. It is unfortunately and lamentably true, that adults as a rule seem to have forgotten entirely the nature of their own adolescent changes, and have therefore lost all sympathetic touch with the young people, whom they endeavor to guide. This renders them unsympathetic and critical, and occasions estrangement at just the time that sympathetic confidence is most to be desired. This comes from a change in viewpoint due to the stage of development in the adult. The adolescent is looking at life in prospect; his elders—parents, teachers, and friends—who have already adapted themselves to their social setting, are looking at life in retrospect. The new self, the rapidly changing, growing, young manhood or womanhood is beginning to establish relations with society from altogether a new standpoint—the standpoint of a socius. The experience is new. There are no past experiences of its own of a kind to furnish prudential insight, and the method of establishing a place in the complex social life environing him is a method of trial and error. He gets much from general social suggestion, but the trying thing with him, the serious thing with him, is just that of making this general thing individual by relating it to his own conduct. He must do it for himself; no one else can do it for him. In his effort to do so he will inevitably make many mistakes. This he feels rather than clearly sees. He feels that there is more or less of hazard in all of his ventures into the great social life around him. But that life is his by social inheritance, and he must come into possession of it.

The retrospective view of the adult has the cold judgment that has come from experience, without the emotional tone of adolescence. In the adult's effort to be of use in the way of shielding the adoles-

cent from error, he forgets this difference in standpoint, and too often allows his advice to come in the form of unfavorable criticism. This unfavorable criticism—this standing in judgment from a high place—is one of the things which the young self of the adolescent can not stand. It is too tender for justice and must have much of mercy. It thrives upon favorable recognition and dies without it. This does not argue that parents and friends shall withhold criticism and abstain from giving the growing youth the benefit of their mature wisdom. It does not mean that the adolescent shall be indulged in caprice and willfulness. It does mean that the adult shall not perpetually be giving carping criticism, shall not always, nor in the main, have the unfavorable attitude toward youth. It does mean that the direction and guidance offered shall be given with kind sympathy, and patience, which are not at all incompatible with firmness. It is impossible for the youth to look at life from the adult's standpoint; it is not impossible for the adult, through reminiscence, and sympathetic participation in the life of the youth, to look at life from his standpoint.

Life to the adolescent is still chiefly emotional. But the emotions which he experiences are in many regards very different from those of childhood. The great and significant physical changes which structurally and functionally connect him with the race are the basic ones during adolescent life. With the development of structure there is always a powerful tendency to function. With muscular growth comes a demand for muscular activity; hence the great delight of adolescents in college athletics, or in any other lines that require some great effort and endurance on the one side, and nicety of skill on the other. All of the physical im-

pulses of adolescence are good and sacred and conducive to his normal evolution if they are properly controlled—organized. But many are very strong and easily perverted. Since the adolescent has not insight enough always to make his conduct good and rational, and since he is chiefly emotional, his conduct will be along the line of least resistance, which, to him, is the line of strongest impulse. It is the unregulated indulgence of some of these physical impulses that become especially strong in both sexes during adolescence, that blast the lives of so many of our young women and men, and disrupt our homes. The equilibrium which is so powerfully disturbed by one impulse, may be restored by the cultivation of others, thus leading off the energy, that would be spent to the harm of the individual, into other lines that at the time are legitimate. These young people who are so full of life are impelled to activity. If left to their own guidance, they can but follow the impulse. This is not safe. The chief concern of the parent and teacher is to furnish legitimate lines of activity. These lines of activity must be in keeping with their age and interests. It is foolish to set before these young people the consuming interests of adult life. Such things are out of joint with their age and stage of development. It may be much wiser to give a boy five dollars and go with him to a circus than to give him a Bible and a set of resolutions. There are a great many indulgences and sports that are not only innocent for our young people, but are positively wholesome. But there is a tendency on the part of the adolescent to be extravagant, rash, reckless, impetuous; this is met by the counter tendency on the part of the adult by a denial altogether of all that savors of prodigality in the youth. This denial,

instead of correcting the evil, makes it many times worse, because the treatment is thoroughly unnatural. The wisest course, is to dilute the very strong impulses, if their satisfaction would be harmful, by directing the surplus life out of many lines of legitimate yet interesting activity. The thing that is going to count for most in the ethical training of adolescents is not additional restrictions, for that is but negative at best, and at this time impossible, because unnatural, but additional encouragement along permissible lines. I would not only tolerate, but positively encourage the more pleasant sports for our adolescents. From a fear of extreme indulgence in some lines of relaxation, some adults make the fatal mistake of depriving the youth altogether of all liberties. These parents and teachers do the Brutus act: Caesar is perhaps a snake's egg, therefore he must be killed. A pioneer school teacher, on the first day of school, lined up all of the big boys in a row and whipped from head to foot of both boys and row, on the grounds that those who hadn't, would. It sometimes happens that the best thing that a boy can do is to make foot-ball his major.

The adolescent especially appreciates the physical excellences of life. In man he loves strength, vigor, endurance; symmetry, dexterity, skill. In woman he loves beauty of form and face; beautiful hair, eyes, teeth, carriage. These may take precedence over the cardinal virtues. This is right, because natural. No thing is so strong an argument for keeping his own body clean, pure and free from evil habits as this ideal of physical perfection. And nothing will beget more gallant and protective conduct on his part toward the opposite sex.

At adolescence the youth ceases to be a mere individual, and becomes a person.

Although the content of life is moral, and although during childhood he took on its form and reduced it to habits of conduct, he did not become interested in this moral content as such. Then, he did not care for moral questions or moral influences directly. But now at adolescence, when his young personality becomes interested in its own beauty, its own worth, in the formation of its own character, then it is that he begins to take an interest in the moral bearing of things. But this interest is not in morals in the abstract; it is distinctively in the concrete. It is an interest in the exemplification of this and that moral trait in an actual character that appeals to him most strongly. Such traits in the abstract are philosophized about at a later stage in his development. Example at this time is all important. Sermonizing is futile. Personality's budding causes the personal part of life to make an especially strong appeal to the youth. He loves the good, great characters about him. He loves their personality because it is a reflection of his own; perhaps not what it is, but what it may be. He is

now particularly susceptible to personal influences. His own young personality finds nothing so sweet as favorable recognition by others. Kindness and politeness are sweet at any time in life, but never again do they swell the soul as they do during early adolescence. On the other hand the scars left by scathing criticism, by sarcasm, by straight or oblique insult are never quite so ineffaceable as those made during early adolescence. A little good counts for more good; a little evil for more evil, than at any other time of life. The teacher of youth during this period is remembered not on account of the lessons she teaches, but rather on account of the attitude she maintains toward these young people; on account of personal favors shown, or punishments given; on account of interest manifested in the personal welfare of each, or the indifference with which she treats the things that are closest to their hearts; this personal recognition that is favorable is the one thing that youth can not do without.

[TO BE CONTINUED.]

GRAMMAR IN THE ELEMENTARY SCHOOLS.

GEORGE W. NEET, PROFESSOR PEDAGOGY, N. I. NORMAL, VALPARAISO, IND.

It will be the aim in the present paper to conclude the discussion begun last month on the purpose of grammar as a subject of study in the elementary schools.

It will be recalled that the pursuit of grammar produces, in general, three effects upon him who studies it. First, it gives vigorous mental discipline; secondly, it gives knowledge which will furnish guidance in using good English; thirdly, it furnishes a basis to build upon in teaching other language subjects. As

previously shown, the disciplinary phase of the purpose of grammar is very important. And a further study here will show, I think, that the disciplinary phase of the purpose of grammar is the most important, and that, of the other two phases, the help it gives in speaking and writing good English is of the less importance.

That it is the purpose of the study of grammar to furnish knowledge valuable for guidance in speaking and writing no one will deny, I think. But that knowledge gained by such study is so valuable

as has been thought may well be questioned. Just what knowledge do all the definition making, parsing, and analyzing done in grammar give that will guide one in using correct language? When one seriously thinks of this point his conclusion is that they give very little. But, granting that various phases of the study of grammar do give knowledge of this kind, it still remains to be seen (1) just what this knowledge is; (2) whether the study which gives this knowledge is adapted to the life of the learner when he is forming his language habits; and, (3) whether, having such knowledge, it does actually guide to any great extent in using good language in speaking and writing.

When an attempt is made by one to enumerate just what the knowledge is, to be obtained from the study of grammar, which is valuable for guidance in the use of good English, he finds not so much to enumerate as he may have thought at first. But the following comes to mind:

1. The correct case forms must be used for nouns and pronouns in the various cases.

2. The correct number forms must be used for substantives in the various numbers.

3. The correct gender and person forms must be used for substantives in the various genders and persons.

4. A verb must agree with its subject in person and number.

5. The correct principal parts of verbs must be used when the verb is in its various tenses, modes, and voices.

These five general principles cover most of the grammatical knowledge that guides in using good language, and what they do not cover is of the same general character.

A study of child nature reveals the fact

to us that there is a language period in the life of the child when he learns language as naturally as he learns to walk; also, that if the child does not learn to use fairly good language in this period he either never will or will do so at great cost and with much difficulty. Now this language period in the child's life is, in general, between the ages of one and fourteen.

The question now suggests itself whether the study required to learn those points of grammatical knowledge claimed to guide in using good English is suitable to children in the language period. No one who understands how hard—how abstract and reflective—a subject grammar really is will answer in the affirmative. No subject in the whole school curriculum requires closer analyzing, judging, and reasoning than grammar. No subject, not even psychology or geometry, in the school curriculum is more difficult.

And again, the guidance grammatical knowledge really gives in the use of good language is much less than many really suppose. If to know how to speak and write correctly and to have the habit of speaking and writing correctly were the same thing, the purpose of grammar teaching in school would certainly be different from what it is. Every one knows they are widely different things. To know grammatical principles is no guarantee that one will habitually use good English. A friend who is an excellent grammarian, and who knows what good English is, makes many common errors in speaking and writing. It is unnatural to learn rules and then form one's English in the light of these rules. The language was first and the rules have been derived from the language. One's habits are formed in language before he has reached a stage of development sufficient to study, with

any marked degree of success, grammar. The most that can be expected of grammatical knowledge in the way of guidance is of a negative character. It shows us some things to avoid. As a matter of fact, though, under the tension of thought and feeling, we usually forget these negative precepts and conform to old habits. Then again, grammar deals with only correctness in the sentence. But correctness is only one element of good English. Good English has as its characteristics correctness, clearness, elegance, and energy.

Thus it appears that grammatical knowledge is of much less value for guidance in the use of good language than is usually supposed.

Every one can see that the study of grammar gives knowledge that makes a good basis upon which to build in teaching rhetoric, composition, literature, German, Latin, Greek, French, etc. This is an important part of the knowledge giving purpose of grammar. This phase of the purpose of grammar is, I think, much more important than the phase of knowledge for guidance in speaking and writing.

Our study leads to the conclusion that the main purpose of the study of grammar is the excellent mental discipline its pursuit furnishes; and that the secondary purpose, the acquirement of knowledge for a basis in other language teaching, is the more important, while least important of all is the acquirement of knowledge for guidance in speaking and writing.

Professor W. D. Whitney, America's greatest grammarian, says: "That the leading object of the study of English grammar is to teach the correct use of English is, in my view, an error, and one which is gradually becoming removed, giving way to the sounder opinion that grammar is the reflective study of language, for a variety of purposes, of which correctness in writing is only one, and a secondary, or subordinate, one—by no means unimportant, but best attained when sought indirectly. It should be a pervading element in the whole school and home training of the young, to make them use their own tongue with accuracy and force, and along with any special drilling directed to this end, some of the rudimentary distinctions and rules of grammar are conveniently taught; but this is not the study of grammar, and it will not bear the intrusion of much formal grammar without being spoiled for its own ends. It is constant use and practice, under never-failing watch and correction, that makes good writers and speakers; the application of direct authority is the most efficient corrective. Grammar has its part to contribute, but rather in the higher than in the lower stages of the work. One must be a somewhat reflective user of language to amend even here and there a point by grammatical reasons; and no one ever changed from a bad speaker to a good one by applying the rules of grammar to what he said."

SCHOOL HYGIENE.

W. H. FOREMAN, SUPERINTENDENT PETERSBURG SCHOOLS.

II.

1. MENTAL ACTIVITY CONDITIONED BY BODILY CONDITIONS AND SURROUNDINGS.

Our entire psychic life is bound up with our physical life. Every mental action is accompanied by definite physical manifestations. Any mental state does not exist in abstractions, as a purely inward, ethical, inaccessible thing, but is accompanied by physical manifestations which are constituent elements and indispensable factors. Abstract from the man in the opera the adaptation of eyes, ears, head, body, limbs, changes in respiration, and the conscious or unconscious reaction of these phenomena upon the central nervous system, and that which is left of the original whole, thus despoiled and emptied, is no longer a state of consciousness. There is, there can be, no form of mental activity without corresponding physical concomitants, manifesting themselves as vaso-motor, respiratory, or motor phenomena.

Too often we forget the body. We teach as if we were instructing and training some inaccessible, intangible, ethical something, imprisoned in a physical prison from which it is seeking to free itself. Forgetting that the life within is so vitally connected with the body that all the knowledge of the world without can be primarily translated into thought only through the excitation of proper nervous tracts through external presentation, and that all internal representation of images, emotions, or thought is accompanied by essential physical manifestations.

The manner and degree of the physical concomitants, and thus of mental activity are determined by bodily conditions. A normal organ, or the the healthy condi-

tion of the body organs, is essential to the best mental activity in the individual. Bodily conditions such as defective sight or hearing, poor metabolism or katabolism, a lack of proper motor coordination, fatigue, an over-sensitive and irritable nervous mechanism, diseased conditions; external conditions or surroundings, such as ventilation, heating, seating, lighting, clothing, food, sleep, outside work and recreation; the floor, walls, blackboards, furniture, size and shape of schoolrooms; the schoolhouse site; the school program, curriculum, instruction and discipline; water supply, and general sanitary conditions, are often responsible for listlessness, inattention, dullness, incapacity, and sluggish mental action. Likewise the diminished power of bodily resistance, induced by bodily conditions and improper surroundings, may and do produce a fertile soil for the exciting cause of disease and the spread of infection and contagion.

It is the business of the teacher to know: (1) The normal healthy condition of the child, and how to modify and adjust the child's conditions and surroundings (bodily, home and school), so as to maintain as near as circumstances will permit this condition; (2) to be able to recognize an abnormal condition in the child, and, if possible, to modify or remove this condition; (3) if the abnormal condition is due to infection or contagion, how to protect those exposed and others not exposed.

I wish to speak more fully in another paper of bodily and school conditions which affect the child's physical nature and thus his mental status, and to devote the remaining portion of this paper to the third point.

a. SOME THOUGHTS ON COMMUNICABLE SCHOOL DISEASES.

Causes of Disease.—The body has a certain resisting power against disease. This resisting power lies in the cells, tissues and fluids of the body. As long as these cells, tissues and fluids perform their normal function, the body is said to be in a state of health, and has its highest power of resistance against disease. When, however, any or all of these natural protectors become abnormal in function, the body is said to be diseased or predisposed to disease.

Disease may arise from either one of two causes or from both combined: (1) Predisposing causes or conditions; (2) an exciting cause.

By predisposing causes or conditions is meant those abnormal conditions of the body cells, due to a lack of physical vitality which is induced by an inherent lack of physical and mental vigor, or the loss of vitality, due to the improper observance of the laws of sanitary and regulative hygiene—thus reducing the body's natural power of resistance, and by this means subjecting it to disease or to the exciting cause of disease.

By the exciting cause is meant the existence and presence of unicellular vegetable micro-organisms and their poisonous products called toxins, and of other poisons whose source is not positively known, the presence and virulence of which are often the result of improper sanitary measures and practices, and which enter the animal organism, often during health, but especially so when there is an inherent lack of physical vigor, or the vitality, force and resisting power of the body is reduced through improper conditions and practices.

Bacteriologists have in recent years revealed the fact that many of the infec-

tious and contagious diseases are due to the presence of a specific micro-organism. Many of these specific bacteria have been differentiated and studied with reference to their physiology, cultivation, and methods of modifying or destroying their virulence, among which may be mentioned the bacilli of diphtheria, of typhoid fever, and of tuberculosis. In some of these diseases several varieties of micro-organisms have been found to exist, but no specific variety has as yet been differentiated as the specific cause of the disease.

Names of Diseases.—The diseases usually spread in the school are smallpox, chickenpox, diphtheria, scarlet fever, measles, whooping cough, mumps, colds, catarrhs, skin diseases, granular or catarrhal conjunctiva, popularly known as "sore eyes," often typhoid fever and tuberculosis.

Diagnosis.—It is not in the province of the teacher to specifically diagnose and treat, but to establish or help to establish hygienic measures which will reduce the liability of the contraction of the disease, or limit or destroy its virulence and spread when contracted. Specific diagnosis and treatment is a matter for the physician. I believe that all persons will agree that especial care should be taken to prevent the introduction or dissemination of communicable diseases through the schools. The importance of this duty should be at all times impressed upon school boards and teachers. When the child complains and the teacher sees that there is something wrong, the child's parents should be notified and the child immediately sent home.

Period of Incubation.—By this is meant the time from the inception of the poison until the first premonitory symptoms of the disease manifest themselves.

This period varies in different diseases, from two to ten days in diphtheria to twelve to fourteen days in smallpox. By knowing the periods of incubation of the different communicable diseases the teacher may often prevent the contraction of the disease after exposure, by referring the children immediately to a physician; for example, in smallpox and diphtheria; and he may likewise reduce the virulence and danger of the disease by cautioning the children and patrons with reference to proper care during this time; also he may prevent the spread by cautioning isolation during the period.

Time of Epidemics.—Temperature, the humidity of the atmosphere, dampness of soil, and reduced resisting power of the body, due to necessary exposure during the winter months, favor the contraction and spread of disease. Hence epidemics usually occur or are more virulent in fall, winter or early spring months, thus increasing the possibility and probability of their spread by means of the school.

How Infection is Transmitted.—Infection may be spread directly from personal contact or close proximity with those affected; bodily exhalations or excretions; fomites, as clothes, hats, wraps, letters, books, pencils, drinking cups, cleansing rags, towels, wax, whistles, or any other porous substance absorbing the poison; anything coming in contact or leaving the body; immediate air or breath; water and food; and indirectly from any inherent or sanitary conditions which render the body more susceptible.

Infection is usually spread by the schools: (1) By being in school during the inception and development of the disease; (2) returning to school too early in the convalescence, or permitting children from infected households to attend school; (3) by attending school during a light and overlooked attack of a conta-

gious disease; (4) by failure to inform the parent and send the child home as soon as he complains, or to report the first outbreak to the health officer; (5) breathing contaminated air because of poor ventilation and overcrowded condition of schoolroom; close proximity in schoolroom, receiving one another's breath; using common pencils, penholders and playthings; hanging wraps together in a dark, damp cloakroom; personal contact in play; undue exposure due to improper heating, poor location and construction of schoolhouse; infected water and use of common drinking cups and water buckets; lack of proper body cleanliness; unsanitary and wretched school closets, and other conditions peculiar to the school, such as lighting, school instruction discipline and regulations which reduce the body's vitality; (6) by failure to perfectly isolate and thoroughly disinfect in case of an outbreak; (7) often delay in dismissing the school.

The power of infection begins as soon as premonitory symptoms appear, which are usually fever, dullness, inattention, etc., and continues until all symptoms of the disease disappear, and body, clothes, and house have been thoroughly disinfected. No definite time can be given when infected pupils may be permitted to return to school, as the natural period of complete recovery in different diseases varies, as well as peculiar conditions and surroundings. The only safe rule for the teacher to follow is that no infected pupil be permitted to return to school without a certificate from the health officer or attending physician.

The public schools receive children from the homes of the unsanitary, careless, improvident, and ignorant, and often the children themselves are dirty, poorly and slovenly clad, and affected with contagion; as well as from homes where sani-

tary measures, culture and refinement exist. These children are placed in the same room often with the poorest sanitary conditions, all breathe the common air, come in personal contact, use common pencils, penholders, and books, drink from the same cup water often contaminated, hang their caps, hats, bonnets, shawls, and overcoats together, and are compelled often to use outside offices of the foulest description. It is no wonder that the schools become channels of infection. It is true the teacher can not be held responsible for the improvidence, indifference, and ignorance of some parents, yet he can at least require skin cleanliness, establish proper bodily conditions in the school, and enforce the strictest sanitary measures, both for the prevention and checking of contagion and infection.

Prophylactic Measures.—These consist of: (1) Ordinary precautions in the regulations and conditions of the school which will lessen the opportunities for an epidemic to start, and if started will have a tendency to prevent its spread. This will include proper location and construction of school building, ventilation, heating, lighting, proper number of pupils in room, proper cleansing and airing of building, cloakrooms with plenty of light and ventilation and free from dampness, good water with proper distribution to children, properly kept outhouses, disinfection of books, pencils, penholders, and other materials used in common, guarding against expectorating on floor, cleanliness on part of children, proper distribution of school work and recreation, medical inspection, etc. I will discuss these conditions and regulations in another paper. I wish to speak in this paper of (2) extraordinary measures, which it becomes necessary to inaugurate when an epidemic has already broken out in order to check the virulence or spread of the

epidemic, and to prevent its outcropping again. This includes perfect isolation and quarantine, thorough disinfection and closing of school.

Cleanliness, ventilation and sunlight are our greatest antagonists to disease and contagion. Inasmuch as it is very difficult to reach dark corners and closets with sufficient sunshine and pure air, and from the fact that no amount of simple cleaning and cleansing will destroy the contagion of smallpox, diphtheria, scarlet fever, consumption, etc., it becomes necessary to resort to chemical disinfection and disinfection with heat. The most common disinfectants are fire, steam and dry heat, chlorinated lime, quicklime, carbolic acid, bichloride of mercury, sulphurous acid, and formaldehyde gas. The best room disinfectants are sulphurous acid and formaldehyde gas.

Recent experiments have discovered and proved formaldehyde gas to be the cheapest, most easily applied and most efficient disinfectant. To use it, however, requires a formaldehyde generator, which, although not costly or difficult to use, is probably but seldom found at present in our schools. I believe that every school corporation should be supplied with an efficient formaldehyde generator, and every schoolhouse, visited or not visited by a contagious disease, should be disinfected with formaldehyde gas.

In the absence of a formaldehyde generator, sulphurous acid gas is an efficient disinfectant. I will indicate briefly the method of disinfecting with sulphur. Thoroughly cleanse all furniture, seats and floor with warm water or some disinfectant; get a tub of water, place a brick in it and on the brick some metal vessel, and in the vessel a handful of sulphur or brimstone; pour over the sulphur some alcohol; shut the windows and doors and cracks in windows and doors; set fire to

the alcohol on the sulphur and then leave the room; keep the room closed for ten or twelve hours and then throw open the windows and doors and let it thoroughly air. Every schoolroom should be thoroughly fumigated occasionally, the same as if exposed to infectious disease.

Lime water [$\text{Ca}(\text{OH})_2$], made by slaking quicklime (CaO) with warm water, is recommended by the State Board of Health as a good disinfectant for furniture, desks and woodwork. Steam and dry heat are recommended for disinfecting pencils, penholders and other property used in common by the children. To do this requires a hot-air oven or steam sterilizer, which are not costly and are easily used. A weak solution of chlorinated lime or bleaching powder (CaCl_2O_2); mercuric chloride or corrosive sublimate (HgCl_2), 1-1,000 or 2,000; carbolic acid ($\text{C}_6\text{H}_5\text{OH}$), two per cent., are good disinfectants for seats, furniture and woodwork. Bleaching powder, four per cent.; corrosive sublimate, 1-500; carbolic acid, five per cent., are good disinfectants for sputum, privy vaults, and scrubbing floors. Crude carbolic acid and quicklime are the best disinfectants for privy vaults.

Perfect isolation and quarantine are necessary because the body, everything that comes in contact or leaves it, and fomites exposed, are usually infected, and infection may be carried through the immediate air. Likewise, all persons exposed to an infectious or contagious disease should be quarantined for a few days above the period of incubation of the disease.

Closing the school often prevents the spread of contagion. Often it is probably unnecessary to close the school, but in case of danger it is always well to err on the safe side. Although the children may unnecessarily expose themselves when out of school, yet they are not so liable to con-

tract or spread the contagion in the home or in the open air. The child's ambition to excel and please his teacher will often hide his ills, and it has been proven that the contagium is oftenest spread during the inception and development of the disease. If any one of the more virulent diseases, such as smallpox, diphtheria, scarlet fever, whooping cough or measles, be prevalent, the only safe plan is the closing of the school and the taking of other proper measures to destroy the contagium and prevent its spread.

Immunity.—By this is meant a certain physiological resisting power, acquired through a previous attack of the disease, age, climatization, and use of antitoxins, such as vaccine virus and the antitoxin of diphtheria. Children are especially susceptible to all the communicable diseases. The idea is prevalent among many parents and teachers that children should have the infectious and contagious diseases, as they must have them sometime, and they are less virulent with children. That they are less virulent is probably correct, but that all must have them is evidently wrong. All ought to go through life without having any of these diseases. It is only through ignorance and carelessness that they are allowed to spread.

Miscellaneous.—Smallpox, one of the most loathsome and contagious diseases, especially appeals to us now because of its presence in our State and the probability of an epidemic. Vaccination and modern sanitation have robbed it of most of its dangers. However, unless proper precautions are taken, its virulence may become as great as in the past. Vaccination is a matter for the physician, but the teacher as an influential member of a community should use his influence with his patrons to have their children vaccinated, especially if there is any danger of an epidemic. Indeed, I believe a law

should be passed requiring every person to be vaccinated in early childhood, at ten or twelve years of age, and at maturity.

The popular belief is that measles and whooping cough are harmless diseases in the young, and that children must contract them sometime, hence it is useless to take precautionary measures against them. The Indiana Pediatrics Society, however, classes these diseases as dangerous because of their sequelae, and therefore advises the strictest precautionary measures.

Diphtheria is eminently infectious. It is very liable to be disseminated through the agency of the school because the symptoms (in those less susceptible) are so mild as not to prevent children from attending school, because the contagion is especially spread by the breath, and because it is difficult to distinguish diphtheria from sore throat. It is always well to take precautionary measures in case of a patchy or sore throat until a physician has diagnosed the case.

Various infectious skin diseases, such as ringworm and itch, are often prevalent among children. These in their origin are usually the result of uncleanness and unhealthy surroundings, being contracted often in uncleanly and unhealthy homes. The school, however, becomes an excellent medium for their spread, through personal contact, mixing of hats and wraps, use of common pencils, books and other materials, common drinking cups, etc. It should be a rule among teachers that any child exhibiting an eruption on the face, head or hands should be prohibited from attending school until cured, and skin cleanliness should be enforced as strictly as possible at all times.

Typhoid fever is not specially a school disease, but the infection may be spread by improper sanitary school conditions,

such as polluted water, befouled air, and bad location of schoolhouse. Often the school well becomes infected by proximity to privy vaults or cesspools, by location so as to receive the surface drainage, or because of failure to thoroughly cleanse after having stood during the summer months.

Tuberculosis is as great a scourge to the people of the temperate climes as cholera and yellow fever to those of more southern climes. It is not specially a school disease, but improper school conditions, such as overcrowding, air impurities, poor heating, lighting, etc., make it easier to contract the disease. Likewise, its universality makes it more than probable that no school is entirely free from infected children. The sputum of infected persons contains hundreds and thousands of germs, and persistent care should be taken to prevent its scattering or drying and to make sure of its destruction. The specific micro-organism is the bacillus tuberculosis of Koch. It attacks the susceptible of both young and old. Cattle are especially affected with tuberculosis, hence the danger of infection through milk and raw beef.

In closing I wish to quote from the annual report of Dr. J. N. Hurty, Secretary of the State Board of Health. His report shows deaths in the State from communicable diseases during the past year to have been as follows: Tuberculosis, 2,279; diarrhoeal diseases, 637, 309 of which were in children under five years of age; diphtheria, 432; scarlet fever, 108; typhoid fever, 667; smallpox, 1; cerebro-spinal meningitis, 382. Dr. Hurty recommends the establishment of a "State sanitarium for indigent consumptives" and a laboratory of hygiene, to cost \$10,000.

I append the following table, in part taken from Wilson's Hygiene, which I trust will be of value.

NAME OF DISEASE.	Period of Incubation.	When Pupils May Return to School.	Quarantine After Last Exposure.	How Infection is Transmitted.	Prophylactic Measures.	Immunity.
Smallpox	12 to 14 days. (Usually 12 days.)	3 to 7 weeks, or until every scab falls off.	18 days.	Personal contact; fomites exposed; anything touching or leaving the body; air in immediate vicinity.	Proper sanitary conditions (body, home and school); vaccination; perfect isolation; thorough disinfection; closing of school.	Vaccination, or a previous attack.
Chickenpox	7 to 14 days. (Usually 12 days.)	4 weeks; until every scab has fallen off.	18 days.	Personal contact; fomites exposed; anything leaving the body; probably immediate air.	Proper sanitary conditions (body, home and school); isolation; disinfection.	Age, and a previous attack.
Scarlet fever	1 to 7 days. (Usually 3 to 4 days.)	6 weeks after inception, and then only if no desquamation or sore throat.	14 days.	Personal contact; fomites exposed; anything touching or leaving the body; infected milk or drinking-water; immediate air.	Proper sanitary conditions (body, home and school) perfect isolation; thorough disinfection; closing of school.	Age, and a previous attack.
Measles	10 to 14 days. (Usually 12 days.)	3 weeks, if all desquamation and cough have ceased.	16 days.	Personal contact; fomites exposed; anything leaving the body; immediate air.	Proper sanitary conditions (body, home and school); isolation; disinfection.	A previous attack or age confers relative immunity.
Whooping cough..	4 to 14 days. (Usually 7 days.)	6 weeks, or not until every vestige of cough has disappeared.	21 days.	Personal contact; fomites exposed; immediate air.	Proper sanitary conditions (body, home and school); isolation; disinfection.	Age, or a previous attack
Diphtheria	Usually 2 or 3 days.	6 weeks, but not until all discharges have ceased, and throat symptoms have disappeared.	12 days.	Personal contact; breath and other bodily excretions; fomites exposed; immediate air; milk.	Proper sanitary conditions (body, home and school); perfect isolation; thorough disinfection; use of antitoxin; closing of school.	Use of antitoxin, or a previous attack confers temporary immunity.
Mumps	Usually 18 days.	4 weeks, if all swelling has subsided.	24 days.	Personal contact; fomites exposed; immediate air.	Proper sanitary conditions (body, home and school); isolation; disinfection.	Previous attack.
Typhoid fever	1 to 28 days. (Usually 12 days.)	Until fever disappears, and diarrhea ceases.	.....	Air, water, food and fomites, infected either from a previous case or decomposing filth.	Proper sanitary conditions (body, home and school).	Old age and a previous attack confers relative immunity.
Tuberculosis .....	.....	.....	.....	Tabercular sputum and other excretions; milk and raw beef.	Proper sanitary conditions (body, home and school); destroy and prevent scattering and drying of sputum; well cooked beef; disinfected milk.	.....

GEORGE III'S FIRST ATTEMPT AT PERSONAL GOVERNMENT.

J. M. CULVER, ITHACA, N. Y.

In the light of subsequent events, we know that neither the King nor Bute expected this system to continue. The King's policy could not be realized so long as Mr. Pitt, the popular war Minister, was directing foreign affairs, or so long as the control of patronage was not under the immediate control of the King. The plan now was to get rid of Pitt first. This was to be done by playing off Newcastle against him, and by interfering with his management of the war.

Conditions seemed favorable for peace. In 1759 an attempt was made to bring it about, but it failed. Since that time the war had been dragging. "It was hoped that, if the animosity of the belligerent powers was not abated, at least a great part of the fuel of discord had been consumed; and that the time was arrived for giving peace to Europe."⁹ This desire on the part of the people to be relieved from the burdens of war was misunderstood by the King and Lord Bute. While the majority of the people would welcome peace, they would not do so on any conditions. "What we have conquered, in a just and necessary war, is as much our own as if we had purchased it with our money. It is more so, if possible. We have purchased it with our blood as well as our money."¹⁰ Rigby, a member of the Bedford faction, in a letter to the Duke of Bedford, who was negotiating for peace, wrote: "I have been conversing with some of my neighbors here about peace, which they all wish for and will tell you they shall be undone if the war continues; but the disorder of the council is epidemical, for they will tell you in the same breath that you must

keep everything which you have taken from the French, and have everything returned to you which you have lost by the war."¹¹

The above extracts suggest the difficulty of the King's plan. He hoped to gain for himself and his favorite, who had by this time become a member of the cabinet, as much popularity from a peace as Mr. Pitt had from the war. By the summer of 1761, negotiations had begun. It was thought advisable to send a special agent to Paris. Mr. Hans Stanley, a friend of Newcastle, was chosen. Mr. Pitt desired that he be sent without instructions, so that he, as Secretary of State for Foreign Affairs, might direct the negotiations. But Bute and the other members of the cabinet united to demand limited instructions. Thus, Mr. Pitt was compelled to accept, to do work affecting his department, an agent who was instructed so as to be beyond his control. Events soon brought a crisis. The French Minister desired to bring into the negotiations some difficulties between England and Spain. Mr. Pitt in an emphatic manner gave the French Minister to understand that England could settle her difficulties with Spain directly. Soon after this, Mr. Pitt received hints of a secret alliance between Spain and France; he then proposed that England declare war against Spain. The matter came up in the cabinet, where only one member, Lord Temple, Pitt's brother-in-law, supported him. He took his leave of the cabinet, saying that he was called to the Ministry by the voice of the people, to whom he considered himself accountable for his

⁹Annual Register, 1761, p. 1.¹⁰London Magazine, 1760, p. 72.¹¹Bed. Cor., iii, p. 42.

conduct, and that he would no longer remain in a situation which made him responsible for measures he was no longer allowed to guide.¹² Three days later he resigned his office. So far his actions were of a character to receive popular support; but it is difficult to imagine how he could have played more completely into the hands of the King than he did immediately following the resignation. The King received him by expressing his concern at losing so able a Minister. At the same time he disapproved Mr. Pitt's policy, and expressed his satisfaction at the action of the other members of the cabinet. Yet he would not turn away the distinguished Minister without some recognition of his services; and in this there was a trick to draw popular sympathy from him. "When Mr. Pitt quitted the government, the Court resolved he should leave his character behind him. * * To destroy his character for independence and disinterestedness, the Court persuaded him to accept the barony of Chatham for his wife, Lady Hester Pitt, and an annuity of three thousand pounds a year for three lives for himself."¹³ He was greatly moved. "I confess, Sir, I had too much reason to expect your Majesty's displeasure. I did not come prepared for this exceeding goodness. Pardon me, Sir, it overpowers, it oppresses me."¹⁴ The next day the *Gazette* came out with three important articles. The first announced Pitt's resignation; the second set forth the honors and rewards; and the third gave favorable and pacific news from the court of Spain. The immediate result was unfavorable to Mr. Pitt. "His whole life, public and private, was scrutinized with the utmost malignity, to furnish matter of calumny against

him."¹⁵ The plan was only a partial success. Mr. Pitt had been forced to resign, and public confidence in him had been temporarily shaken; but no popularity had been gained by either the King or Lord Bute. Four days later the King, Mr. Pitt and Lord Bute went to dine with the Lord Mayor of London. Mr. Pitt was given an ovation; the King was neglected; riots occurred in the streets, and it was with difficulty that a special guard was able to keep Lord Bute from receiving injury.¹⁶

The details by which Newcastle was driven from office can not be given here. He had been one of the tools in driving Mr. Pitt from office. It was his turn next. His retirement was forced by personal slights, interference in appointments, and attacks on his ability. Subordinates, in his department, were instructed to treat him rudely. Appointments were made without consulting him.¹⁷ Finally, May 6, 1762, he resigned, and Lord Bute was made Prime Minister.

With the two prominent members of the old government out of the way, Bute's next work was to bring about peace. Preliminaries were signed at Paris, November 3, 1762. The English people were strongly opposed to its terms, and so were a majority of the members in the House of Commons; but the method of overcoming opposition in the House was very simple. By conferring favors, the Crown secured Henry Fox, one of the most skillful parliamentary leaders of his time, to conduct the treaty in the House and to provide means for getting votes. "A shop was publicly opened at the Pay Office, where the members flocked, and received the wages of their venality in bank bills, even

¹²Annual Reg., 1761, p. 43.

¹³Rockingham Mem., i, p. 47.

¹⁴Ann. Reg., 1761, p. 45.

¹⁵Ibid., p. 47.

¹⁶Walpole's Mem., i, p. 70.

¹⁷Ibid., pp. 122, 123.

to so low a sum as two hundred pounds for their votes on the treaty. Twenty-five thousand pounds,¹⁸ as Martin, Secretary of the Treasury, afterwards owned, were issued in one morning; and in a single fortnight a vast majority was purchased to approve the peace."¹⁹ In the light of the preceding paper, it is not difficult to see how this was done. The vote was 319 to 65, in favor of the treaty. "Now," said the King's mother, "my son is King of England."²⁰ Apparently, the personal Minister was secure, and the system of personal government was established. But to the surprise of every one, Lord Bute resigned April 8, 1763. Ill health was given as the cause. Contemporary accounts agree in stating that the real reason was that he could not endure the unpopularity and

the attacks which he had brought on himself in building up his power. His retirement was a relief to many. "Had he been firm to himself, there was an end of the Constitution! The hearts of Englishmen were corrupted and sold, and the best heads among them toiled in the cause of despotism. A happy panic blew up the system of absolute power when it had lasted but five months."²¹

In all of this, emphasis should be placed on the King's method. He would be a patriotic King, and destroy parties and factions; but to accomplish all this he became a politician of the worst sort, intriguing, courting, and bribing. As we study in our American history, the unpopularity of George III. and his government, we may remember that all was not peace and harmony at home.

¹⁸25,000 pounds equal about \$121,250.

¹⁹Walpole's Mem., i, p. 157.

²⁰Ibid., p. 184.

²¹Ibid., p. 202.

THE INFLUENCE OF ENVIRONMENT UPON PUPILS, AND ITS CONSIDERATION BY THE TEACHER.

BERTHA M. ADELSPERGER, NOTRE DAME, IND.

In the great theater of life we find countless and varied environments. The lofty mountains in sunny climes represent an ever-changing picture. At the base is found the tender, tangled, luxuriant growth of tropical vines, plants, and trees. The sun, the rain, the fertile soil, all seem to say to them, Grow on, grow on forever; we will supply you with all you want or need.

Higher up the mountain side the elements of temperature and wind and storm change the condition to one favoring the growth of less, but stronger, hardier, and a more useful class of vegetation.

The summit, reaching far above the clouds, is bleak, cold, desolate, and almost

lifeless. Only small, dwarfed, stunted plants and shrubs can grow amid its snow and ice-covered crags and rocks.

In the valley and on the plain as the altitude, moisture, and composition of soil is varied the character and class of trees and vegetation, even in the same climate, is completely changed.

A careful study of the subject reveals the fact that the human race physically is no less sensitive to the conditions and changes of climate, altitude, moisture, and soil than vegetation.

In the tropics people are dark in complexion; black, coarse hair; black-eyed. In the temperate zones the people are fairer, more inclined to light hair and

blue eyes. In the frigid zones again we meet with the dark complexion, dark eyes, and coarse hair.

In high altitudes the inhabitants are inclined to be tall and slender, as in Chili and Patagonia. In low, flat countries, short and thick, as in Holland and Belgium.

People who subsist upon one class of foods are lean and spare, while those upon another are corpulent and fat.

An eminent philosopher has said: "What changes the body changes the mind. This statement needs no proof, as a casual glance around us will satisfy the most skeptical of its truthfulness. What has its effect upon the body has its effect upon the mind. And conditions that contribute to a strong and healthy physique contribute to a strong and healthy mind. We do not wish to be understood, however, that either may not be cultivated and developed at the expense of the other. But where each are allowed to follow in their natural condition the one will invariably correspond to the other in health, activity, strength, and nature. In hot climates but little effort is required to produce the necessities of life; this condition develops a slow, lazy physical nature and a corresponding dull, incomprehensive mental capability.

In extreme cold climates the mind is taxed to its utmost capacity to provide that which is absolutely necessary to exist. There is no time left in which to develop the mind, while between the two extremes of climate a condition exists favorable to the highest development of both the body and the mind. Here physical activity is the greatest and the mental achievements unlimited and unrestricted. It is here that every mountain, every valley, every stream of water, every grain of sand, every blade of grass, and every flower af-

fect the body and leaves its imprint upon the mind. To illustrate, it is said that the Greeks owed their peculiar character and taste for art to the varied and beautiful scenery which surrounded them. Their mythology and poetry are full of allusions to the scenes of nature. Mountains, springs, rivers, and seas form the background of the picture which represents their character and history. The same is true of the Romans, Egyptians, Phoenicians, and Hebrews. Each nation was confined within a narrow territory and remained there long enough to partake fully of its surroundings. The Indians of the eastern section of the northwest coast, of the interior, or of the mountainous portions of our country, all bear the stamp and character of their native country.

In the consideration of the subject of environments, this law must be considered in its broadest and strongest sense, and when applied to the pupils of our public schools has practically no limit. Each individual student lives within a little world of influences peculiar to itself, that moulds and shapes its character, either good or bad. This being the case, it devolves upon the teacher the duty, imperative in its nature, if success is achieved, to study each pupil and become as far as possible familiar with all that surrounds him, and to what degree and manner the different environments control him. We admit this is a task herculean in its nature, but the more this method is practiced the more perfect and satisfactory will be the results of teaching.

The conditions which affect the health of each student should be carefully considered by teachers, not only in the schoolroom but out of it, in the amount of work and study required. A child in delicate or impaired health, from any cause, should have the special care and

sympathy of the teacher at all times, and be given every opportunity and advantage possible for physical development. Defective hearing and eyesight many times may be overcome by giving those so affected the locations in the schoolroom best adapted to their condition. The same care should be exercised in regard to the correction of other defects. A condition of perfect health is to feel that we exist without an effort, and the nearer the pupils reach this condition the better work the mind will be able to perform. In no case should the brain of a child be taxed at the expense of its physical nature. It is better to miss a grade than to impair the health of the child. "A weak mind in a herculean frame is better than a giant mind in a crazy constitution."

Pupils coming from well governed and regulated homes usually give the teacher but little trouble, whether rich or poor. The proper foundation for an education has already been laid. The environments have already been arranged and controlled for the good of the child. The work of a teacher, then, is only to build on and develop.

The experience of a teacher establishes the fact beyond controversy that all families are not well regulated. In fact, this class is greatly in the minority and is especially represented in the schools where all grades are taught by one teacher. The unruly, unmanageable students usually drop out of school while in the lower grades, leaving the higher grades composed of a greater percentage of studious and more easily governed pupils. To be general, the school, as an assembly, is heterogeneous in its character, composed of all phases of temperament, all conditions of health, every conceivable natural moral tendency, from the most sensitive and pious that under proper

guidance will develop into the highest and purest type of manhood and womanhood, to the low, vile, dishonest, degrading inclination that if neglected would end in the lowest depths of brutality, sensuality, and criminality. The teacher must confront these conditions, let the environments causing them be what they may, and make an effort to strengthen and develop the good and discourage and obliterate the bad. Each condition met should be studied and noted as carefully and with as much precision as a physician diagnoses a disease, and when the controlling forces are understood by the teacher such means or methods should be employed that will remove, or at least counteract the causes that result in evil or damaging inclinations. This is no easy task. It is a slow, tedious process to train a dove to feed upon flesh, or a lion to subsist upon cereals; yet it has been done, and so completely done that that which was foreign to their nature became a necessity to their very existence. So it is with a child. Its natural conditions may be arrested and completely changed by throwing around it new environments or by rearranging the old.

It is related in the biography of Benjamin Franklin that the home of his early boyhood was near the shore of the sea, and that the wild waves of the ocean had a strong, fascinating influence over him. He would stand and gaze out over the boundless ocean, hour after hour, day by day, spellbound, entranced, enraptured, oblivious to all else around him. At times he would seat himself in a little frail bark and row with might and main over the tempest-tossed waters, lashed to a fury by wind and storm, and as the waters piled up beneath him, mountain high, he would cry in ecstasies of delight as he prepared to meet the awful plunge,

to follow which threatened disaster and his very life. He knew no fear; he knew no danger. The wild scenes stamped upon him their powerful influence, and caused the inclination to form in his mind towards a seafaring life. His parents were greatly opposed to his becoming a sailor, and, fearing he would run away from home, as an older brother had done, his father took him to other scenes, visiting all the machine shops and places of mechanical interest in the city of Boston. Young Franklin became interested in mechanical and scientific work, and by the change of environments was led from the life of a common sailor to a life and a name that all nations praise. It is not within the power of a teacher to bring about such a complete change of environments in the narrow confines of the schoolroom; but it is not always necessary to take such radical measures. A small change, almost imperceptible in its nature, may bring about great results. The little things should not be neglected. Any influence that a teacher can bring to bear upon the pupils that will instill in their minds the idea of self-respect will do much towards insuring perfect government of the school. It creates pride and ambition and the desire for the good opinion of others. Cleanliness and courtesy will naturally follow, and no student can long remain indifferent to such conditions, and a successful career is assured. Emerson said: "Give a boy address and you give him the mastery of palaces and fortunes wherever he goes."

The dull student should not be neglected or overlooked, as the brightest students do not always achieve the greatest success in after life. Washington was a slow, plodding student and got his education by hard work and study. Lincoln was a better story-teller than student, but

while he split rails and built log cabins he kept thinking.

Grant once said that when a student, if the foot of the class had been the head, he usually would have been at the head. Garfield was a dull, sleepy boy, but he kept thinking while he rode the mules along the Erie Canal towpath. Edison was a boy of but few words, but is to-day the most wonderful inventive genius of the age. Josh Billings, the humorist, was considered idiotic when a boy, and the odd spelling which characterized all his writing was the result of a defective memory. Froebel, also, passed for a dunce in school, and was apprenticed to a forester in the grand old Thuringian forests, where he remained until he was seventeen. His study of nature gave him a profound insight into the laws of the universe, and he seemed to be possessed by the main ideas which influenced his life. All dull students may not become eminent men, but under proper influence will become useful men.

Pupils indulged and spoiled by their parents at home are hard to manage. Cute children give the teacher no end of trouble. Nearly every school has represented in it what is known as the unmanageable pupil, made so by various causes. It is the duty of the teacher to study the surroundings of such children and apply methods as will be best adapted to change their habits and divorce them from evil associations. Mrs. Alger, Superintendent of the Truant School of New York City, has had more experience with this class than any other teacher in the United States. She has sent to her school all types of boys—Americans, Poles, Germans, Italians, Russians, Irish, Swedes—gathered in from every quarter of the great city. They have but one possession in common, a record of lawlessness, dis-

order, and incorrigible truancy. Her method is to study the individual character of each student as far as possible and to adapt her methods to suit the particular case. While she summarily deals with wrongdoing, she gives encouragement and commendation for the slightest attempt toward obedience and goodness. All kinds of work and drills are taken up for the purpose of interesting the pupils and detaching them from their evil ways. No matter how bad a boy may be or how severely he is punished, she never leaves him without some encouragement and expressing her conviction that he will do better and will yet be a credit to himself. The labor in the school has been rewarded by success and good results. It is seldom that a boy is sent to the school a second term. Mrs. Alger has the greatest faith in children, and says that no boy is too bad to be made good.

Vacations, especially in cities, contribute many evil influences. During the idle times, the children are thrown out upon the streets and among evil associ-

ates, and as a result drift into bad habits. They lose interest in their studies, and the teacher finds that considerable time is consumed before the pupils are brought again under proper control or government. Last year Chicago tried a vacation school as an experiment. No textbooks were used, but the time was occupied in manual training and organized method of play. Once a week they were given excursions to the country. The general health of the children was greatly benefited, and juvenile crimes greatly reduced. The school proved to be a perfect success, and the plan might be copied in other places with profit.

As the environments which surround the pupils are countless and their influence boundless, the teacher can only exercise judgment in determining causes, and formulate plans that will be of the most benefit to each pupil or at least to the greatest number. This plan adopted and exercised by a conscientious teacher will bear good fruit in proportion to the amount of care and labor performed.

.... THE SCHOOL ROOM

FENRIR AND THE GOD TYR.

LYDIA R. BLAICH, SUPERVISOR INDIANAPOLIS SCHOOLS.

In the land of giants (frost giants, mountain giants, three-headed and wolf-headed giants) there lived one—very handsome, but evil-minded and mischief-brewing—whose name was Loki. He often forced himself into the company of the gods, whom he delighted to bring into difficulties and then extricate them by his skill and wisdom.

Loki had three children—the wolf Fenrir, the Midgard serpent, and Hela

(Death). All the deities knew that these children would at some time bring much trouble to gods and men. One day Odin visited Loki's home, with the view of ridding heaven and earth of these troublesome children. He cast the serpent into the ocean surrounding Midgard; but the creature grew so large that, holding his tail in his mouth, he encircled the earth.

Then Odin and his companions, who had accompanied him to Loki's home, looked upon Hela. In return she gave them such a piercing glance that all ex-

cept Odin became white as snow, and were frozen into a ridge of rocks behind the All-Father. "Strange daughter of Loki," said Odin, "you shall be cast into Niflheim to rule as queen over the nine worlds of death, to which all persons must go who do not die in battle. In your empire shall be much suffering—hunger, starvation, care, and anguish."

Believing that Fenrir might perhaps become obedient and gentle, and ex-



change his ferocity for courage in the wholesome air of Asgard, amid the happy faces and in the hearing of the brave words of the heroes, Odin conducted the wolf to the heavenly hills.

The brave, strong-handed god Tyr was chosen to feed Fenrir; and it certainly was a wonderful sight to see Tyr stand like a tall, mighty sheltering promontory, with Fenrir roaring at his feet like the

mad wave trying to undermine the strong wall. By and by, no one, not even the gentlest goddess, had a thought of fear concerning the growing wolf, whose eyes seemed to flash fire; and yet all the while the glad air and nourishing food gave him not merely strength and valor; but increased ferocity and cruelty. But one evening Odin, as he watched the feeding, suddenly became alarmed in his heart at the immense power and wild strength, with not a trace of gentleness, displayed by the wolf. He called a council of the gods, to whom he made known his fears and asked for advice.

The mighty Thor was first to answer. "You speak with a very faint heart, Father Odin. Do you forget my powerful hammer and its work in my smithy? Never fear; I shall forge a chain that will easily make the wolf harmless." All the gods were pleased with these brave words, except Odin. He remained sad and silent. After a few minutes he said: "Begin your work at once. We hope it may succeed." All night long and the succeeding day the great hammer strokes on the anvil resounded throughout Asgard. When the next twilight fell the Thunderer presented his chain to the gods, who, with the exception of the All-Father, could not praise it enough.

It was agreed that Thor and Tyr should bind Fenrir. They expected a fierce struggle; much to their surprise, Fenrir quietly submitted, but just as Thor had given the final stroke which rivetted the last link far into the strongest rock, the wolf slowly rose and, without an apparent effort, broke the chain in twain, and walked leisurely away.

Sorely disappointed, but not ready to surrender, Thor spent three days more forging a stronger binding—a chain half again as strong as the first, and so heavy

that the god almost staggered beneath its weight. Again the wolf was chained without resistance; and again he broke his fetters, almost as easily as the first time.

Now indeed was Thor discouraged; but another god, Frey, who had charge of summer, sunshine, flowers, butterflies, soft winds, and the gentle elves of the forests, said: "Thor, Tyr, and the other mighty gods have spent their lives fighting giants and monsters, and much wisdom has it brought them. I have spent my time peacefully, in the woods and fields, watching the seasons follow each other, and have seen how the silent, dewy night ever leads up to the bright, smiling day. This has made many things plain to me. I have learned that wondrous strength lies in little things, and labor carried on in silence ever brings forth the grandest birth. Thor and his hammer have failed to bind Fenrir; let us now turn to the unknown and the weak. In the caverns and dim places of the earth live a tiny people, always working with unwearied fingers. With your permission, I shall entreat their aid." Odin rejoiced, and gave command that Frey carry out his suggestion.

Losing no time whatever, Frey's messenger set out on his journey, entering a mountain cave and traveling on and on to the inner part of the earth. Here he found cunning-eyed, open-mouthed, hump-backed dwarfs, feeding the great earth central fire, making diamonds out of the ashes, filling the earth's cracks with gold, silver, and other metals, and leading them to the surface, where they might catch the eyes of men. On a throne set with diamonds sat the dwarf chief, to whom Odin's message was delivered. Now the cunning dwarfs had a wholesome fear of Odin, and so they immediately complied with his request. Two days and

nights were required to make the chain; at the close of that time the chief handed Frey's messenger a chain which he held on his forefinger and which had the weight of a thistledown. The messenger looked surprised. "You laugh," said the chief, "but that chain is made of very queer things, such as the noise made by the footfall of cats, the roots of stones, etc. Fear not; Fenrir can never break that chain."



Thanking the dwarfs, the messenger returned to Walhalla, which he soon reached. With gladdened hearts, the gods proceeded at once to bind the monster, who, with a look of savage triumph in his eye, howled defiantly.

In the presence and hearing of Fenrir the gods tried in vain to break the chain. Finally one said: "No one can break it, unless it should be you, Fenrir."

Proud Fenrir replied: "I like not to be bound with that chain; but, lest you think me a coward, I permit myself to be bound provided one of you place his hand in my mouth as a pledge that you are not deceiving me."

Greatly shocked, the gods looked at each other, each drawing back in the hope that another would have the required courage. Finally, Tyr, the one whose hand had so often fed the wolf, now placed that hand in the cruel jaws. Immediately the other gods bound the wolf, who struggled long and hard, but without avail, to free himself. All the gods sent up a shout of joy, save Tyr alone, whose hand had been sacrificed in the struggle.

Tyr was the god of war, and a far finer hero than Thor. He was the most fearless of the gods, and now when a man surpasses all others in bravery we call him Tyr-strong.

As the gods left the chained Fenrir, they sang: "Tyr has won the highest honor, for he has most worthily employed his gift. Frey gave his sword for Gerd, the queen of the elves. Odin bought himself wisdom at the price of his right eye. Tyr, not for himself, but for others, has sacrificed his strong right hand."

(For valuable help on the Norse mythology, the following books are recommended: Bulfinch's *Age of Fable*; Gayley's *Classic Myths*; Anderson's *Norse Mythology*; Keary's *Heroes of Asgard*; Thorpe's *Northern Mythology*; *Asgard and the Gods*, by Wagner, and the *Younger Edda*.)

A SPELLING LESSON.

"We will try a new kind of spelling lesson to-day," said Miss Alton, in a tone that suggested something pleasant. "For your desk work you make a little dictionary; place two words under each letter except 'x.' You may omit that letter altogether. Write any words you wish, but I hope you won't choose 'baby' ones from the first reader! If you have time you may write more than two under each letter, but," warningly, "be sure you know how to spell every one! Making a diction-

ary, Bertrand," she explained to the new pupil, "is arranging words alphabetically. Tell me something to place under A."

"Animal," ventured Bertrand.

"Under B."

"Bert," he said, merrily, and at once began making his dictionary.

A look of pleased expectancy greeted the calling of the spelling class.

"I'll take all of the dictionaries," said Miss Alton, "now for the plan: The first child I call on may pronounce and spell any word from his list. The next child must spell something beginning with the last letter of the word just spelled. I'll begin with you, Bertrand."

"January," he proudly pronounced and promptly spelled it.

"Tom."—"Y-a-k," quickly spelled the second boy, delighted that the "y" in January had not tripped him.

"Neta."—"K-n-i-g-h-t," readily came a word beginning with "k."

"Jennie."—"T-o," Jennie spelled. "Oh, that's such a wee word! Let's have some other 't'!"

"Te-r-r-i-b-l-e," volunteered Jessie.

"E-x-p-o-s-i-t-i-o-n," spelled Mark, triumphantly, enjoying the sensation the many syllables created.

If one hesitated or missed a word, many were eager to substitute some other word beginning with the same letter. So rapidly came the words, and so quickly flew the time, that sighs of regret and surprise greeted the closing of the recitation.

"Mayn't we have it another day?" was the urgent request. "Oh, do let us," cried the irrepressible, "I can learn some hard words to spell."

Miss Alton smiled at the eagerness, and instantly resolved to give an opportunity for spelling the long, difficult words, which she well knew the pupils would voluntarily commit to memory.

Mrs. E. E. O.

DESKWORK IN PHONOGRAMS AND IN WORD-BUILDING.

MRS. E. E. OLCOTT, DANVILLE, IND.

The manual of "The Rational Method in Reading" gives us the following:

"A phonogram is a written or printed representation of a sound, either simple or compound.

"A simple phonogram is a phonogram containing but one letter, as s, i, o. A compound phonogram is one that contains more than one letter. Every compound phonogram represents a compound sound, which, however, is taught as a unit, as ing, ight, un.

"A word phonogram is a sight word used as a phonogram in the representation of a longer word. Word phonograms are really, of course, compound phonograms, but for the sake of convenience the term 'compound phonogram' is restricted to combinations that are not words. Old in fold, ail in sail, are word phonograms." Ar, er, ir, and ur are compound phonograms, or is a word phonogram, all of them should from the first be taught as units. The object of the desk work that follows is to develop self reliance in "working out" the pronunciation of new words; it also enlarges the pupils' vocabulary.

DESKWORK.

I.

In the following list of words, draw a line under the phonograms ar, er, ir, or, ur; then rewrite the words, placing each under its proper phonogram, and adding a new word to each list.

- | | | |
|----------|-----------|------------|
| 1. Fork. | 5. Fern. | 8. Cur. |
| 2. Bert. | 6. Firm. | 9. Harm. |
| 3. Urn. | 7. Horse. | 10. Skirt. |
| 4. Ark. | | |

Complete work:

- | | | |
|---------|----------|----------|
| ar. | er. | ir. |
| 1. Ark. | 1. Bert. | 1. Firm. |

- | | | |
|----------|-----------|-----------|
| 2. Harm. | 2. Fern. | 2. Skirt. |
| 3. Park. | 3. Stern. | 3. Shirk. |

or.

ur.

- | | |
|-----------|------------|
| 1. Fork. | 1. Urn. |
| 2. Horse. | 2. Cur. |
| 3. Cord. | 3. Church. |

II.

From the following list, build as many words as possible by filling blanks with the phonogram given above:

- | | | |
|----------|---------|----------|
| 1. St—. | 5. P—t. | 8. C—t. |
| 2. F—. | 6. D—t. | 9. B—d. |
| 3. F—m. | 7. B—n. | 10. C—d. |
| 4. St—k. | | |

Suggestive list:

1. St—, star, stir.
2. F—, far, fir, for.
3. F—m, farm, firm, form.
4. St—k, stark, stork.
5. P—t, part, pert.
6. B—n, barn, burn, born.
7. C—t, cart, curt.
8. C—d, card, curd.

Give the rules for spelling, about doubling the final consonant, and dropping the final e when a termination beginning with a vowel is added.

III.

From the following list, build new words by adding er or ing (sometimes both) to each word. Double the final consonant in the new words.

- | | | |
|----------|----------|-----------|
| 1. Hop. | 7. Bet. | 9. Quick. |
| 2. Clap. | 5. Cut. | 8. Quit. |
| 3. Lad. | 6. Stop. | 10. Sit. |
| 4. Flip. | | |

Suggestive list:

1. Hop, hopper, hopping.
3. Lad, ladder.
7. Bet, better, betting.
9. Quick, quicker.

IV.

From the following list, also, build words by adding *er* or *ing*. Drop the final *e* when forming the new words.

- | | |
|-----------|----------|
| 1. Trade. | 5. Make. |
| 2. Have. | 6. Love. |
| 3. Write. | 7. Cure. |
| 4. Hope. | 8. File. |

Suggestive list:

1. Trade, trader, trading.
2. Have, having.
3. Write, writer, writing.
4. Hope, hoping.

V.

Add *er* or *ing* to the following words:
Farm, shock, pitch, sweet, chill, twist, meet, box.

Suggestive list:

1. Farm, farmer, farming.
2. Shock, shocking.
3. Pitch, pitcher, pitching.
4. Sweet, sweeter.

A DICTATION EXERCISE.

One day our teacher gave each of us a card with dots on it. I think she hectographed the dots from our new Busy Work Drawing Cards, but we could not guess what the picture would be.

She told us to be very careful, and said:

1. "Draw a vertical line from the first dot at the top to the dot just below it.
2. "From the second dot draw a right oblique line to the dot below, that is, to the third dot from the top on the right.
3. "Go back to the second dot and from it draw a left oblique line to the dot below, that is, to the third dot from the top on the left.
4. "Put your pencil on the dot at the end of the right oblique line (dot 3); from

this dot draw a short vertical line to dot 4 below.

5. "From dot 4 on the right draw a right oblique line to dot 5.

6. "From dot 5 draw a vertical line to dot 6.

7. "From dot 6 draw a right oblique line to dot 7, the last dot on the right.

8. "Go back to dot 3 on the left, from it draw a vertical line to the nearest dot below, that is, to dot 4 on the left.

9. "From dot 4 on the left draw a left oblique line to dot 5.

10. From dot 5 draw a vertical line to dot 6.

11. "From dot 6 draw a perpendicular line to dot 7, the last dot on the left.

12. "From dot 7 on the left draw a horizontal line to dot 7 on the right.

13. "From dot 6 on the left draw a horizontal line, through two other dots, to dot 6 on the right.

14. "Between these two horizontal lines draw two other lines parallel to them and dividing the space into equal parts.

15. "Count the dots enclosed within the outline you have drawn, including the two through which the horizontal line passed. You find there are six.

16. "Around the first and highest of these six dots draw a small circle.

17. "From the second dot, the one just below the circle, draw a right oblique line down to the third enclosed dot.

18. "From this third dot draw a vertical line to the fourth dot, which is the last enclosed dot on the right.

19. "Go back to the second enclosed dot and draw a left oblique line down to the third dot, that is, to the next enclosed dot below.

20. "From this third dot draw a perpendicular line to the fourth and last enclosed dot on the left."

Then we saw we had drawn a picture of a church!

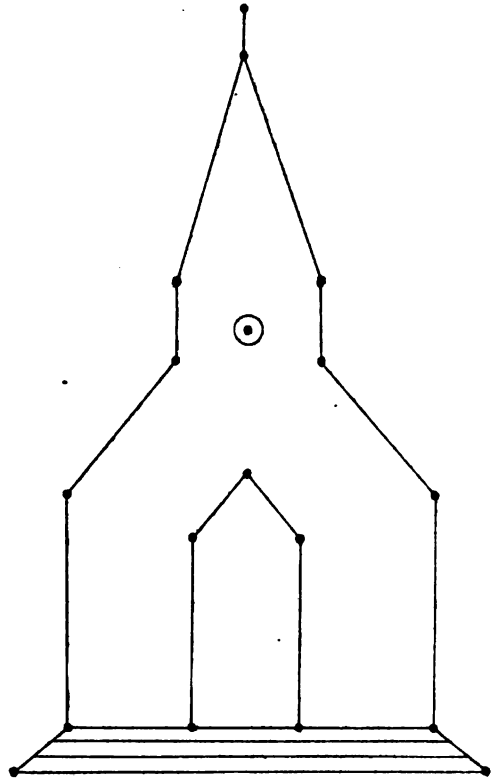
Our teacher told us to write a story about the church.

I wrote that mine was Old North Church in Boston. I closed my story with this quotation:

"If the British march
By land or sea from the town to-night,
Hang a lantern aloft in the belfry arch
Of the North Church tower as a signal
light—
One, if by land, and two, if by sea."

Our teacher said she was glad I remembered Paul Revere, but told me to find a real picture of Old North Church and compare my drawing with it.

Here are the dots and the picture we drew by joining them:



The foregoing exercise in drawing simple lines from dictation is a fine drill in concentration. To realize the close attention required, copy the dots, and, giving them to some one who has not seen the completed work, let him follow the directions as you read them. Such exercises not only discipline the mind but give a working knowledge of vertical, horizontal and oblique lines. The dotted designs may be obtained from a set of "Practical Drawing Cards, Busy Work for Primary Schools." There are sets 1 and 2, having twenty or more designs each. The dots Publishing Company, Boston. The dots may be duplicated with a hectograph, or, when dictation exercises are not desired, the pupils may be given cards from the set; they make dots at each perforation, and, removing the card, complete the design.

DECIMAL FRACTIONS.

A. JONES, MARION NORMAL.

Decimal fractions present the same difficulties as common fractions, with an added one. In common fractions the fractional unit is expressed by the denominator, while in decimal fractions it is indicated by the position of the figure with reference to the decimal point. In the fraction $\frac{7}{1000}$, the eye readily catches the denominator 1000, and the mind interprets the value of the fraction. In the fraction .007, the position of the 7 with reference to the decimal point must be determined before the mind thinks the fractional unit and interprets the value of the fraction. Because of this new difficulty the pupil should be thoroughly trained in writing and reading decimals.

In decimal fractions, as in common fractions, the work may be performed mechanically, the pupil gaining little thought power; on the other hand the relations may be carefully traced and expressed and the processes made interesting and of great educational value. In this article I have chosen to discuss some of the most important fundamental principals of the subject. As in common fractions, many of the processes are preparatory to the synthetic and analytic acts of the mind.

The decimal point should never be placed between a whole number and a fraction; the expressions $8\frac{1}{2}$ and $\frac{1}{2}$ are incorrect, because the fraction occupies the same order as the number to which it is attached. If it be required to write one-half tenths, it should be written .0 $\frac{1}{2}$.

REDUCTION TO A COMMON DENOMINATOR.

Decimal fractions have a common denominator when the given fractions have the same number of decimal places.

Problem: Reduce .8, .128 and .4397 to a common denominator.

Solution: The third number, .4397 has a denominator of 10,000, and since it has the greatest number of decimal places, the other fractions must be reduced to ten-thousandths.

.8=.8000; .128=.1280; after this reduction, the last figure of each fraction occupies the fourth order to the right of the decimal point, and the fractional unit of each is $\frac{1}{10000}$.

Problem: $\frac{5}{8}$ to a decimal fraction.

Solution:

1 unit = 10 tenths.

5 units = 5×10 tenths = 50 tenths.

50 tenths $\div 8 = 6$, and 2 tenths remain.

1 tenth = 10 hundredths.

2 tenths = 2×10 hundredths = 20 hundredths.

20 hundredths $\div 8 = .02$, and 4 hundredths remain.

1 hundredth = 10 thousandths.

4 hundredths = 4×10 thousandths = 40 thousandths.

40 thousandths $\div 8 = .005$.

$\therefore \frac{5}{8} = 6$ tenths, 2 hundredths and 5 thousandths = .625.

The fraction $\frac{5}{8}$ is an unexecuted division, and the 0's annexed so that the division may be continued, simply reduces the remainder to the next lower denomination as shown above.

Addition and subtraction present no difficulties except in complex decimals. Let it be required to add .16 $\frac{2}{3}$ and .000 $\frac{3}{4}$. The $\frac{2}{3}$ in the first number is in hundredth's order, and the $\frac{3}{4}$ in the second, in thousandth's; these fractions also have unlike denominators, and the mind can not combine them until they occupy the same order and have a common denominator; .16 $\frac{2}{3}$ =.166 $\frac{2}{3}$; now, the $\frac{2}{3}$ is in the same order as the $\frac{3}{4}$ in .000 $\frac{3}{4}$, and the unexpressed decimal denominator is the same in both fractions. But the fractions $\frac{2}{3}$ and $\frac{3}{4}$ have unlike denominators which

must be made similar before the process of addition can be performed.

$$.166\frac{2}{3} = .166\frac{4}{6}; .000\frac{2}{3} = .000\frac{4}{6}; .166\frac{4}{6} + .000\frac{4}{6} = .167\frac{2}{3}.$$

A careful following of the above discussion will clear up any difficulties that may arise, either in addition or subtraction of complex decimals.

MULTIPLICATION OF DECIMALS.

Multiplication presents no difficulties, except pointing. The rule for pointing is easily remembered, but the principles upon which the rule is based should be understood by advanced pupils, so that the process may be rational instead of merely mechanical.

Problem: Multiply .39 by 9.

Solution (first form): $.39 \times 9 = 3.51$.

In this problem the multiplicand is hundredths, and according to a fundamental principle of multiplication, the product is hundredths, the same denomination as the multiplicand. By pointing off two decimal places, the last figure stands in hundredth's order.

Solution (second form):

$$\begin{array}{r} .39 \\ \times 9 \\ \hline 3.51 \end{array}$$

9 times 9 = 81.

But .09 = $\frac{9}{100}$ of 9.

\therefore 9 times .09 = $\frac{9}{100}$ of 81 = .81.

9 times 3 = 27.

But .3 = $\frac{3}{10}$ of 3.

\therefore 9 times .3 = $\frac{3}{10}$ of 27 = 2.7.

.81 + 2.7 = 3.51.

$\therefore .39 \times 9 = 3.51$.

The same line of thought will show the reasons for pointing where both multiplicand and multiplier are decimals.

Problem: Divide 25 by .5.

Solution: $25 \div .5 = 50$.

By considering the 25 and 5 both whole numbers, the quotient is 5. But upon investigation it is seen that the divisor has been considered 10 times as great as it is, because it has a divisor of 10, and is .5 instead of 5. Since the divisor has been thought 10 times as great as it is, the resulting quotient, 5, is 9 times too small, since, to increase the divisor diminishes the quotient in the same ratio; therefore the quotient, 5, is 9 times too small, and in order to produce the true result it must be multiplied by 10, which is done by removing it one place to the left by annexing a cipher.

CIRCULATING DECIMALS.

In the Indiana Advanced Arithmetic this question is asked: "What proper fractions may be reduced to a pure decimal?"

In answering this question intelligently it is necessary to think what is done in the reduction of any proper fraction to a decimal

In a proper fraction the numerator is less than the denominator, and before any division can be made, the numerator must be reduced to the next lower denomination by annexing a cipher. If the division is not complete, other ciphers are annexed, and so on till the division is complete; but at any stage in the process, the dividend ends in 0, and is a multiple of 10. Since in any complete division the dividend must contain all the factors of the divisor, if the denominator of the fraction to be reduced to a decimal contains other prime factors than 2 and 5, the reduction can not be made. The fractions, $\frac{1}{7}$, $\frac{2}{11}$, $\frac{3}{13}$, $\frac{5}{17}$, can not be reduced to pure decimals because the numbers 7, 11, 13 and 17 can not be resolved into the prime factors 2 and 5.

From this it is readily seen that comparatively few common fractions can be expressed as pure decimals.

In the attempt to reduce fractions whose denominators contain other factors than 2 or 5, to decimal fractions, the division will never terminate, and certain figures or sets of figures will recur in the quotient as the division continues. The decimal fractions so arising are called circulating decimals, and the figures or groups of figures so repeated, repetends. Circulating decimals give rise to a number of very intricate and interesting relations, and their discussion is out of place in the common schools.

THE PHYSIOLOGY OF DIGESTION. III.

INTESTINAL DIGESTION.

CHARLES D. NASON, PH.D., PROFESSOR OF PEDAGOGY,
TRI-STATE NORMAL COLLEGE.

The processes of digestion previously described have been incomplete. The food remains in the mouth for so short a time that the starchy grains are neither completely changed into sugar, nor, indeed are they completely separated from other kinds of food. In the intestines, the churning movements of the organ and the dissolving away of connecting fibers further break up the food, and also that class of substances known as proteids is partially digested. Yet, in the periodic spurting of chyme through the pylorus there pass out of the stomach large quantities of undigested starch and proteids, together with the fats, which up to this time have not met any digestive agent. The task of completing this unfinished work is the office of the juices thrown into the small intestine, the bile, the pancreatic juice, and the intestinal juice.

Of these juices, the largest in quantity is the bile, a yellowish or dirty green fluid

secreted by the liver and stored for future use in the gall-bladder. About a quart and a half of this fluid is secreted per diem. It is a slightly alkaline product, and in large quantities neutralizes the acid chyme. Thus it prepares for the digestive action of the pancreatic juice, which requires an alkaline solution. Besides preparing for the action of pancreatic juice, it has a work of its own to perform, the digestion of fats. In order that oil and fat may be taken up into the system, it is only necessary that they be broken up into very small globules, a condition known as an emulsion, an example of which may be seen in the milky fluid resulting from the rapid shaking of a mixture of oil and water. The bile is enabled to make such an emulsion of the fat globules since the gastric juice has digested away their coatings, setting free the oil. The bile further changes the oil into a kind of soap which can easily be absorbed. That the bile plays an important part in digestion is seen in cases of disease where it is deficient in quantity. In such cases the patient suffers from an absence of digested fat and rapidly becomes thin.

But the emulsifying power of the bile is greatly increased when it is mixed with the pancreatic juice, which is manufactured in the pancreas, or sweetbread. Both fluids enter the small intestine a short distance from the pylorus, at about the same point. This part of the small intestine is called the duodenum, because its length is about the breadth of twelve fingers, and it is at this point that the chief work of intestinal digestion is carried on.

When acting together, the bile and the pancreatic juice have a mechanical function, that of forming an emulsion; but the pancreatic juice has by itself a chemical

action on the contents of the duodenum. This is due, once more, to a ferment known as tripsin. This ferment is so strong that the pancreatic juice is able to complete the work imperfectly performed higher up the digestive tract. So rapid is the action of the pancreatic juice on the starchy foods which have escaped the action of the saliva that the Germans call the pancreas the *Bauchspeicheldrüse*, or the abdominal salivary gland. Moreover, it has a strong digestive action on the lumps of proteid food substances which have slipped through the pylorus (meat fiber, gluten, albumen, etc.), and we have already seen the combined effect of bile and pancreatic juice on fats. In fact, the pancreatic juice is the Jack-of-all-trades of the digestive tract, but, fortunately, it is a master of them all.

There is still another intestinal fluid which aids in digestion. In our first paper we saw how starch was changed into grape sugar, or glucose, but no account has yet been taken of the cane sugar which we eat. Now, although cane sugar is easily dissolved, it can not be taken directly into the system. It is the business of the last intestinal juice to change cane sugar into grape sugar. Since this is the only function of the intestinal juice, its action is not of much moment in digestion. The small intestine now contains a thick, smeary fluid which is the completed product of digestion and is called chyle.

Experimental demonstrations of these processes of digestion are not so important now, since the children have already seen the same results in the previous illustrative experiments. Still, as repetition is "the mother of studies," a few experiments will not be out of place.

The emulsifying power of the bile may be shown schematically by shaking together oil and water, or it may be directly shown by shaking up a little olive oil with some bile from the full gall-bladder of a hen.

Pancreatic digestion with tripsin is quite as easy to perform as that of gastric digestion with pepsin, and the result is even more striking, since a mixed diet of starch, meat fiber, egg, and milk can be digested in a single tube. But, although only a little is needed for the experiment, the tripsin necessary is rather expensive. In trying the experiment, it is important to remember that the food substances must be in an alkaline solution, just as in gastric digestion an acid solution was necessary. The alkalinity is brought about by adding a little dissolved sodium carbonate, or ordinary washing-soda. As in pancreatic digestion there are always present many bacteria, it becomes vile smelling after it has stood a little while, so that the tubes should be removed immediately after the experiment.

A very interesting combination experiment may be performed in which, first, gastric digestion is carried on for a time, the acid solution is then rendered alkaline by the addition of the washing-soda, and then the tripsin added. The whole may be carried on in a tumbler. In this experiment, it will be more satisfactory to omit the fats.

The chemistry of digestion is now complete, and it only remains necessary to explain how absorption takes place from the walls of the intestine and how the products of digestion get into the blood. The treatment of absorption, the crowning act of digestion, we leave to the concluding paper.

SOLUTION OF PROBLEMS 28 AND 29.

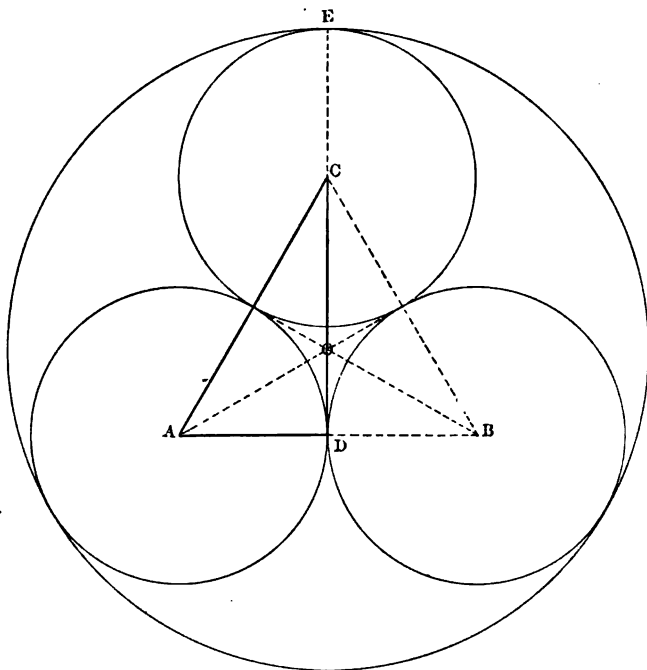
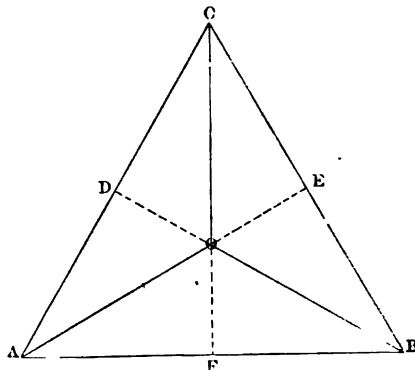
PAGE 127 INDIANA ADVANCED ARITHMETIC.

Problem 28: Draw the three altitudes of an equilateral triangle from the vertices to the opposite sides. They meet at a common point. Join this point with the vertices forming three equal triangles. Show that the altitude of each is $\frac{1}{3}$ the altitude of the equilateral triangle.

Solution: The point O, joined to the vertices A, B and C, forms three equal triangles, AOB, BOC, and AOC. Then the area of the triangle, ABO, equals $\frac{1}{3}$ of the area of triangle ABC. But the area of triangle ABC = $\frac{1}{2}$ of CF \times AB, and the area of triangle ABO = $\frac{1}{2}$ of OF \times AB.

Since the area of a triangle equals $\frac{1}{2}$ the base by the altitude, and the triangles ABO and ABC have equal bases, and the area of triangle

ABO equals $\frac{1}{3}$ the area of triangle ABC, then the altitude of triangle ABO must equal $\frac{1}{3}$ of altitude CF, of triangle ABC.



Problem 29: What is the diameter of a circle that will just enclose three silver dollars, arranged in the form of a triangle?

Solution: $1\frac{1}{2}$ in. = diameter of a dollar.

Join A, B and C, the centers of the dollars.

Then triangle, ABC, is equilateral, and its sides each $1\frac{1}{2}$ ins. long. Draw the three altitudes, and they will meet in the common point, O. (Problem 28). Then O will be the center of the circle that will just enclose the three dollars.

Triangle ACD, is a right triangle, whose hypotenuse, AC, = $1\frac{1}{2}$ ins., and base, AD, = $\frac{1}{2}$ in.

Then $(1\frac{1}{2})^2 - (\frac{1}{2})^2 = \frac{5}{4}$; $\sqrt{\frac{5}{4}} = 1.29$ + number of inches in altitude, CD.

In problem 28 it was proven that OD = $\frac{1}{3}$ of CD. Then OC = $\frac{2}{3}$ of CD. $\frac{2}{3}$ CD = $\frac{2}{3}$ of 1.29 + in. = .86 in. CE = .75 in., radius of a dollar. OC + CE = .86 in. + .75 in. = 1.61 in. radius of the required circle. 2×1.61 ins. = 3.22 + ins., the diameter of the required circle.

Indiana School Journal.

PUBLISHED MONTHLY.

D. M. GEETING, }
GEORGE F. BASS, } - - - - - Editors.

ELMER B. BRYAN, - - - Associate Editor.

Discontinuance.—The Journal will be discontinued when the time for which the subscriber agreed to take it has expired. The figures preceding the dash on your label give volume of Journal; those following, the number of the volume with which your subscription expires.

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Price.—Subscription price is ONE DOLLAR a year. Single copies 10 cents.

Address all communications to

INDIANA SCHOOL JOURNAL,
Commercial Club Building,
INDIANAPOLIS, IND.

Entered at the Indianapolis postoffice as second-class matter.

THE NEW SUPERINTENDENT OF INDIANAPOLIS SCHOOLS.

At a meeting held April 20th, the Indianapolis School Board, by a unanimous vote, elected C. N. Kendall superintendent of the Indianapolis Public Schools, to begin service on July 1, 1900, at a salary of \$4,000 a year, which is \$400 more than any former superintendent has received. There are nearly seven hundred teachers employed in the Indianapolis schools. The Journal is glad to note a disposition on the part of the Board to pay enough to get the right man for superintendent.

In the January number of School and Home Education, George P. Brown said, editorially, that the man selected for superintendent of the Indianapolis schools should possess the following qualifications:

He should have a broad and liberal view of what the public school can do in prepar-

ing the children for citizenship and for services in a vocation.

He should have a generous sympathy for teachers, pupils, and patrons, and be able to put himself in the place of each in determining his own course. He must be willing "to decrease that they may increase."

He should be a man of large reading and a generous culture, whose presence shall be an inspiration to those among whom he moves.

He should know children from a long experience in teaching them. A hearsay knowledge of children, obtained from the reports of others, will not suffice.

He must have courage as well as patience—knowing how to labor and to wait.

Dr. A. E. Winship, editor of the New England Journal of Education, knows the work of C. N. Kendall at New Haven. He recently said editorially, that "the choice of C. N. Kendall as superintendent of schools at Indianapolis is as good as could have been made. No man's success has been more complete and high-toned than has his at New Haven. In experience, equipment, and personality, he leaves nothing to be desired. It is also most gratifying to know that the new law under which he will work is the best in the country."

Mr. Winship quotes the "qualifications" of School and Home Education, and says that he is "pleased to assure Mr. Brown that Mr. Kendall fills the bill."

Mr. Brown, in commenting on these qualifications, says: "These qualifications are necessary to the highest success. No man whom the educational public does not yet know, or has not heard of, can be expected to possess them. They are the result of years of study and devotion to high ideals.

"Above all, the man chosen should be one who has a firm conviction that it is his commanding duty to grow."

We are glad to make the foregoing

quotations from School and Home Education and the New England Journal of Education, because we believe the one sets forth ideals that should not only dominate every superintendent, but every teacher as well; and the other assures us that the Board has succeeded in finding and securing such a man for superintendent of the schools.

It will be remembered that the Indianapolis superintendent is an ex-officio member of the State Board of Education, so the schools of the entire State are directly interested in the selection of superintendent of the Indianapolis schools.

Mr. Kendall is a native of New York State. He taught in district schools before entering college. After entering college he taught one year as principal of village schools in New York State. Graduated from Hamilton College, Clinton, N. Y., in class of 1882; was one of the six Clark prize orators of his class and was awarded the first prize in his class for excellent debating. Taught three years in private preparatory school for boys in Milwaukee; became principal of Jackson, Michigan, High School in fall of 1885; was elected superintendent of schools in 1886, and resigned in 1890 to accept superintendency of schools, East Saginaw, Mich. In 1892 he was re-elected for three years by a unanimous vote, but declined the election. He was in business for three years, and while he was successful, he decided that he preferred educational work. In 1894 he was elected assistant professor of pedagogy in the University of California, but declined the election. He was elected superintendent of the New Haven, Conn., schools, the position he now has, in 1895; was re-elected in 1896, for three years by a unanimous vote; re-elected for five years by a unanimous vote in 1899. He was a graduate student at Yale University in

1898-99; was president of Connecticut Council of Education 1898-99; was elected president of Connecticut State Teachers' Association, October, 1899.

From the foregoing it will be seen that while Mr. Kendall was born and educated in the East, he has had a great deal of experience in educational work in both the East and West. This, we think, is much in his favor. We hear good reports of him from every quarter. We can assure him that he will find a corps of teachers and supervisors who have the reputation of being loyal to their leader and to the best interests of the schools.

We clip the following from among the many good things the New Haven papers said upon his resignation:

We can not but regard the resignation of Mr. Kendall from the superintendency of the schools as a public misfortune.

It is due Mr. Kendall to say candidly that his work here has been of the highest quality, and that in consequence the school district that had run down at the heel from nonefficient direction owes him a debt of gratitude.

The chief characteristic of Mr. Kendall's policy here has been its modesty.

Mr. Kendall will leave New Haven with the best wishes of its school officers and the citizens generally.

PURDUE'S PRESIDENT.

The Board has certainly acted wisely in deciding that it will take plenty of time to consider carefully before making a selection for this very important office.

Many names have been suggested to the Board and there are a few "applications." Among the names suggested we notice Dr. Walter J. Quick, of Brooklyn, Ind. Mr. Quick is an alumnus of this institution as well as two other institutions. He holds from Purdue the degrees of B. S. and M. S., and the Agricultural Sci-

ence Diploma. He also has Ph. D. from the Royal University, one of the best universities of Germany. He has held positions in agricultural colleges and experiment stations and in the State University of Missouri, with which is connected one of the best agricultural colleges of the United States.

He is a Hoosier farmer's son, and is a successful farmer himself. He now owns and occupies the Landers estate at Brooklyn, Ind. He is conducting some important breeding and feeding experiments and other investigations in connection with the Department of Agriculture at Washington, D. C.

It is quite evident that Mr. Quick does not need Purdue. "Does Purdue need him?" is the question the Board will evidently take time to consider.

RUTS.

A "rut" is a corrupted name of "route." It is a well-defined track marking a course that has been traveled. Ordinarily, a rut suggests the existence of a road which is safe traveling over. He is sure that others have gone that way, and he is encouraged to follow them. It takes time to make ruts, and it often saves time to follow ruts. If every man had to find for himself the directest or safest route toward the place of his journeying, he would have to spend valuable time in various researches in one line or another, in order to make sure that the route he finally pursued was the right one.

Ruts have their value, not only in travel, but in conduct, in speech, in study, in belief, in thought, and in every other sphere of living or of being. The routes that have been marked out by former generations of pioneers and of pursuers can not, with safety, be ignored in one's course

of conduct through any of these spheres. It would be a waste of time and of strength to start out for one's self in the direction of a well-known terminus without making available the discoveries and the experiences of those who had gone that way before. On the face of it, a rut indicates the better course of travel. As a rule, the safer and more desirable mode of dress, and of behavior, and of language, and the correcter and more trustworthy view of truth in matters of opinion, or even of feeling, is that which has been pointed out by the travel of the ages. To turn away from the ruts, while you are seeking an approach to the place whither these ruts tend, is always more or less perilous. Hence it is that keeping in the ruts is an impulse of a cautious nature, and is, ordinarily, the duty of one who is unable to observe and act for himself intelligently, without the help of a trusty guide. But with all the advantages of ruts, they clearly have their limitations, and thereby they cause the loss of whatever good may be beyond their bounds. He who adheres to the ruts of travel, can see what is to be seen along that route, from the observing point of those ruts, but he can see nothing else. He can make no discoveries in regions adjacent; not even to the extent of a glimpse of a bit of scenery which opens itself in rare beauty only a stone's throw from the roadway. It is the same in conduct as in travel. He who does just what others have done before him, has the justification of precedent, and he may be doing the best thing possible in the premises. But if he never departs from the ruts, he can never be the means of correcting an error originally made in the starting of those ruts. He who follows the ruts can never give a new shade of thought by a fresh-coined word, nor gain an original standpoint of observation in his examination of truth,

nor secure the best results of absolutely independent individual thinking, nor be able to know why his opinions and beliefs are better founded than those of persons who differ from him at points which he and they deem vital. A great teacher was spoken to about his rare originality of thought. "Oh!" said he, modestly, "I merely look at truth from another corner of the room." Most teachers prefer to be told just where to stand, in order to look at a given truth, so that they may see that truth just as other see it. Nothing should tempt us away from the ruts that mark the directest, the safest, and the least course in the line of personal duty and of absolute truth. On the other hand, whatever ruts deflect one in the slightest degree from the line of personal duty and absolute truth, should be abandoned in spite of uncomfortable jolting, or apparent peril in leaving this course.

MINDFUL OF OTHERS.

One of the great factors in child training is a watchfulness for opportunities of service; this is of greater value than a willingness to serve when the opportunity presents itself. If a child could be led to be on the lookout for helpfulness to others he could create a large sum total of happiness with the expenditure of very little energy. A large, strong boy, passing by on the pavement, lifted a heavy basket up the steps for a feeble woman. Two hearts were made sunshiny for the whole morning through the act of this thoughtful service. By accident, the boy's teacher witnessed the incident and through it saw the boy in a different light. When questioned, the boy said that he had cultivated the habit of assisting others in lifting or carrying loads, mindful of his own physical strength. A little helpful

suggestion might be turned to good account in this direction. Many a child is backward in talking because it knows enough to be timid about expressing itself; many a child talks early because it does not know enough to keep silent. Thought is as likely to be a bridle as a spur. Everyone can make his advantages count more for him than his disadvantages count against him.

A child's knowledge of facts in the material world becomes more and more sharply defined as he grows in years. It ought to be not less true of the spiritual than of the intellectual life. He ought to have a more definite apprehension of duty, a sharper discrimination of the principles of conduct, a more vivid realization of life.

St. Paul owed his large usefulness to a power of accommodation, by which, as he says, he became "all things to all men;" to the Greek, a quoter of the Greek poets; to the Romans, a Roman conscious of the dignity of its citizenship; to the Jew, a Hebrew of the Hebrews.

He who is willing to be judged by a low standard will never reach high attainment; and he who seeks to be judged only by high standards has so far made high attainment already.

In speaking to a teacher recently, a trustee had occasion to reprove her for her quick temper. She said to him, "It is not an easy matter to hold back an angry word when it is at the tongue's end." He replied, "But this is a great deal easier than it is to recall an angry word when it is once spoken. If the angry word be not spoken now, it can be spoken by and by—if necessary; therefore it is wiser to hold it back until there is no doubt that it needs to be spoken."

EDUCATIONAL INFORMATION.

MISCELLANY.

UNIVERSITY ITEMS.

The course in nature study in the Summer School at Indiana University is attracting special attention among the teachers of the State. It will be given by Prof. D. W. Dennis.

Prof. William Lowe Bryan, of Indiana University, has been given leave of absence for a year, beginning August 1, and he will spend the time in Europe. He will have charge of his regular work in the Summer School, which begins June 20. The authorities at Indiana University are expecting a large attendance during this session.

Work has commenced on the reconstruction of Wylie Hall, Indiana University, and the completed building will be used at the opening of the fall term. The third story will be used by the Law School.

Kirkwood Observatory will be erected on the Indiana University campus this summer. A twelve-inch glass has been ordered from Brashear. The observatory will be one of the best equipped in the West.

Prof. E. B. Bryan, who is on a year's leave of absence doing advanced work at Clark University, will return to Indiana University at the opening of the fall term.

Prof. Horace A. Hoffman, Dean of Indiana University, has returned to his post after a period spent in advanced work at Harvard.

RICHMOND.

Last month Dr. A. E. Winship, editor of the New England Journal of Education, visited Earlham College and the public schools of Richmond. He gave a very forcible address to the college students on the subject, "Value of College Training as a Preparation for Life's Work in Whatever Calling One Wishes to Enter." The address was both helpful and entertaining.

He lectured at the high school to a large audience at 4 p. m. His subject was the "Accompanist." It was one of the most

helpful and inspiring educational lectures ever given in the city. He said of his visit to the schools:

"I have spent all day in the schools of your city, visiting grades from the kindergarten to the high school, and have seen no attempt toward discipline, and have not heard a word spoken to any pupil on the subject of order, nor have I seen any disorder."

In speaking of the departmental grammar school he said: "In traveling over the country, visiting and studying schools, it is often my good fortune to 'happen onto things' which I would go a great distance to see if I knew of them. Your central grammar school is one of these. If I had known of it, I would willingly come from Boston to Richmond to visit it. Of course I have seen many other departmental schools, but I have never before seen one that was so nearly ideal to me."

NOTICE—W. D. T. ASSOCIATION.

Inasmuch as there seems to be some misunderstanding as to the date of W. D. T. A. meeting at Grand Rapids, please notice that the meeting is to be held on Wednesday, Thursday, and Friday, May 9, 10, and 11, and not on May 2, 3, 4, and 5, as shown on circular of exhibit committee.

LETTER FROM SUPERINTENDENT JONES.

Indiana School Journal, City:

Dear Mr. Geeting—I have before me a letter from Mr. Asbury Coward, Chairman of Committee on School Exhibits of the National Educational Association. He requests that the school officers and teachers of the State be informed that there will be an exhibit of school work made in Charleston during the sessions of the National Association. I respectfully request that you make such notice in your School Journal that any schools in the State so desiring may make preparation. By addressing the above-named gentleman at Charleston, S. C., school teachers may get any information desired.

Yours very truly,

F. L. JONES.

GAS CITY.

The contract has been let for a new six-room building, including a large assembly room, into which the High School will be moved at the beginning of school next fall. The building will be constructed of stone and brick, provided with the fan system of ventilation and electrically lighted. Physical and chemical laboratories will be fitted up in the basement of this building.

WASHINGTON TOWNSHIP, MARION COUNTY,
INSTITUTE.

At the last Institute, April 14, Dr. Bowers, of Millersville, read a very interesting paper on the "Problems of Fate." Resolutions were adopted declaring the present transfer law inadequate and cumbersome, and commending the course of the Trustée, O. J. Russell, in his stand taken in refusing transfers.

K. E. HARRIS, Chairman.

THE NEW PROFESSION OF FORESTRY.

Some interesting facts regarding the attitude of the various colleges toward the comparatively new profession of forestry in the United States are shown by the applications for the position of Student Assistant in the Division of Forestry. This grade, which was created last summer, is an innovation in departmental methods. A number of young men, who have decided to make forestry their vocation, are employed during the summer at \$25 a month and their expenses. They work under experts and receive practical instruction, while the government secures intelligent assistance at little cost.

Last summer there were but thirty-five applications for this position. This year, although three months remain before field work will begin, over 160 have already applied. Forty of these are Yale men, mostly undergraduates; Cornell and the University of Minnesota have each eleven, Harvard twenty-three, and the Biltmore Forest School three. The remainder of the applicants represent several different schools, and some are not college men. Timbered parts of the United States, singularly, do not furnish as many forest students as the more thickly settled districts. There are but three applicants from west of the Mississippi. On the other hand, the interest at Yale is so great that a school of forestry probably will be established there this fall.

NATIONAL HERBART SOCIETY.

To the Editor Indiana School Journal:

Dear Sir—The National Herbart Society is being reorganized, and for this reason the publication of the next Year Book of the society will probably be postponed until the reorganization is effected.

The following are some of the features under consideration:

1. Purpose: The scientific study of education.

2. Active membership: A relatively small number of active members, who shall elect the officers and conduct the business of the society. The chief qualifications for active membership shall be the possession of time, ability, and inclination to undertake serious scientific study of educational problems.

3. Associate membership: A large number of associate members, organized whenever practicable into study clubs, who upon the payment of a small annual fee shall be entitled to receive the publications of the society and to attend all its meetings.

4. Publications: The publication, in year books and supplements, of the result of scientific study by the active and associate members, when approved by a committee on publication appointed by the active members.

5. Self-election to active membership: An arrangement whereby an associate member may become an active member when there is a vacancy by tendering to the society for publication a dissertation showing adequate study of some problem in education.

Very truly yours,

CHARLES DeGARMO,
President National Herbart Society.

FRANKLIN COLLEGE.

The classroom work this year has been very satisfactory.

The Y. M. C. A. and Y. W. C. A. have, for the first time, undertaken to direct a lecture course. The result was fairly satisfactory. This term will in addition to ordinary work have the extra task of preparing for commencement. The committee of visitors chosen for commencement week consists of Mrs. Mabel D. Curry, Terre Haute; Prof. E. L. Hendricks, Mitchell, and Prof. A. O. Neal, Franklin. Prof. Shailer Matthews, of the University of Chicago, will deliver the address

on behalf of the graduating class. The professors have been in considerable demand this year throughout the State for addresses and sermons. President Stott will also go out of the State on duty—at Rochester, N. Y., and Detroit, Mich.

The college catalogue will be out by May 1, and will show a total attendance for the year of two hundred and fifty. A larger attendance is expected next year than the institution has hitherto had, at any time.

The college glee club, on its spring tour, found a most favorable reception wherever it went. The musical ability was not more remarked upon than the gentlemanly, Christian bearing of the young men.

Franklin College has had six fellowships in the University, awarded to the following gentlemen: Paul Monroe, E. W. Abbott, O. W. Caldwell, E. A. Hanley, C. E. Goodell, and A. R. Hatton.

NORTHERN INDIANA TEACHERS' ASSOCIATION.

The eighteenth annual meeting of this association was held at Logansport March 29, 30, and 31. It was the largest meeting in point of numbers enrolled that the association ever had. The enrollment was nearly 2,800. The principal lecturers were David Starr Jordan, President of the Leland Stanford, Jr., University, Stanford, California, and O. T. Corson, President of the National Teachers' Association, which meets in July at Charleston, S. C.

With two such speakers the session could not fail to be both interesting and instructive.

Mr. Corson's talks were full of practical suggestions that the thoughtful teacher will recall when he enters the schoolroom to take up his daily work. In all his talks he impresses his hearers with the necessity of using "common sense" in everything. His talks were eminently "common sense" talks. Such talks are always stimulating.

While Dr. Jordan's talks were not directly related to teaching, they were very helpful to the teacher. Often the teacher gets more help from what was not intended for him especially than he does from that prepared especially for him.

Any who listen attentively to Dr. Jordan's lectures on "The Rise of the Common Man," "The Blood of the Nation," "The Strength of

Being Clean," or "Putting Away Childish Things" can not fail to see a broader and higher view of life. This is beneficial to all, no matter what their vocation may be.

The general meetings and the section meetings were an inspiration to all who have or desire to have the teaching spirit. Of course, very few get more from these meetings than a knowledge that there is much in this world that is worth having and a desire to get all that is worth having.

The first session of the general association was held at 7:30 on the evening of the 29th of March, with 2,500 in attendance. The welcoming address was made by Q. A. Myers, Secretary of the Logansport School Board. After eulogizing the profession of teaching and those present who were actively engaged in teaching, he extended to all a hearty welcome to the city.

The response was made by Superintendent I. V. Busby, of the Alexandria schools. After referring to the fact that it is yet in the memory of persons now living when sympathy for the destitute or those of physical infirmities too often placed them in educational work without any regard for their peculiar moral or intellectual fitness for the work, that in some communities under the pestilential influence of the politician, the ultra-churchman or social caste the schools are held as charitable institutions for their needy kinsmen, he said: "We journeyed not to Logansport to witness a resurrection of this dead past. We came to observe the results of a remarkable metamorphosis, and to receive the quickening touch of a higher professional life than yet attained."

He referred to the fact that twenty-five years ago the teacher was recognizable at sight. He was then known by his dress, speech, and pedantry in general; but now the typical teacher is recognized as a plain lady or gentleman of culture. He claimed that this change had been brought about by two stimuli—one from without, typified by the requirements of modern industrial life, and the other from within, typified by the aspirations and inner consciousness of one of the most earnest, conscientious, self-sacrificing, long-suffering classes of all professional people.

He closed by saying that the citizens of Logansport had shown by generous greeting,

painstaking decoration, and royal hospitality that they have faith in the schoolmaster of to-day.

Superintendent W. C. Belman, of Hammond, the retiring President, referred to the fact that in 1888 the association met at Logansport and could not fill an ordinary-sized church even with help of the city teachers and all the citizens that could be induced to attend. After thanking the association for courtesies extended to him as President, he introduced his successor, Superintendent Justin N. Study, of Ft. Wayne. His inaugural address upon "American Education, Its Present Trend and Some of Its Problems," showed that he had given his subject much thought and had prepared the address with great care. He began by referring to the present unrest in all departments of life, as well as in education. The educational ideals of the past are questioned. Educational methods are condemned. Educational values are weighed critically and the utility of subjects investigated without regard to the acceptance given them by former generations. But he contends that amid all this there is a general consensus of opinion that the true end of education is the formation of character, the making of men and women, and a general acquiescence in the statement of Herbert Spencer that the true function of education is to prepare us for complete living.

Mr. Study then reviewed the history of education in other countries and other ages than our own in order that we might understand and appreciate the education of to-day. He says that the traditions of education cling to us long after we have cast off like traditions in religion and politics.

He said that as the Greek was trained to meet the requirements of citizenship, so should the American boy be trained to fill the varied and peculiar requirements of American citizenship.

For want of space we can not publish the address in full at this time. His closing remarks were as follows: "Looking with the eye of faith down the vistas of the future, I can see the time coming afar off—not perhaps in the days of the youngest teacher here, nor in the generation of those who come after them—the glad day when wars

shall be no more, when the fierce struggle for bread shall be stayed, when progress and poverty shall no longer go hand in hand, when men shall no longer struggle for self but live in obedience to the Master's injunction, "In honor preferring one another," when the people of our own America sitting in judgment shall award the crown of highest honor to the American teacher as to the one who is greatest of mankind because most useful to his fellowmen."

The next meeting of the association will be held at Anderson. The following are the officers for the ensuing year: President, J. W. Hamilton, of Monticello; Vice President, Walter E. Erwin, of Muncie; Secretary, Miss Cora Stanton, of South Bend; Treasurer, W. A. Mills, of Attica; Railroad Secretary, A. E. Malsbary, of Peru.

THE SOUTHERN INDIANA TEACHERS' ASSOCIATION.

The twenty-fourth annual meeting of this association was held at Evansville, April 5, 6, and 7. It proved to be the largest meeting in the history of the association, the enrollment reaching 2,575. The people of Evansville, under the leadership of Superintendent W. A. Hester, of the Evansville schools, spared no pains in making the teachers comfortable while in the city. The hotels and homes did all they could to accommodate the great numbers in attendance. Much credit is due to the citizens and the chairman of the executive committee for the great success of the meeting.

The principal lecturers were Dr. John Dewey, of the University of Chicago, and Miss Sarah L. Arnold, of the Boston Public Schools. Mr. Dewey's subjects were "The Formation of Habit," "A Working Scheme of Correlation," "The Place of Imagination in Education," "Pending Educational Problems."

Miss Arnold's subjects were "The Essential Principle of Teaching," "The School as Preparation for Citizenship," "The Child's Side of Things," "In School and Out," and "Nature Study in the Grades." The last subject was discussed in the primary section, with Miss Arnold as leader.

These two lecturers said many things that will be of great help to the teacher who will think about them when engaged in his work. No teacher can afford to miss hearing

such leaders in education as these two lecturers are.

The section meetings were all interesting and well attended.

The first session of the general association was held at 7:30 on the evening of the 5th. Mayor Akin welcomed the teachers to Evansville on behalf of the city, and extended to them the keys of the city, wishing them a profitable and enjoyable meeting. Following the Mayor's address, came that of Secretary Weil, of the School Board. He spoke in behalf of the schools. His address was warmly received. He was greatly applauded for demanding the entire removal of politics from the schools.

In the absence of Superintendent Mott, who was to make the response, Superintendent W. H. Glascock, of Bloomington, was asked to take his place. He responded in a very pleasing manner. Among other good things, he said: "I believe in the high dignity and mission of the teacher. It is world-wide, and I may be pardoned if I express a great pride and feeling of importance on behalf of the teachers here assembled. The educator has an important part in the life of our nation and to-morrow's destiny is to a great extent in his hands."

Mr. Glascock then said, addressing himself more particularly to the citizens:

"We have come here to your beautiful city on the historic Ohio in a region made famous by the memory of Clark and rich with the wealth of nature and toil of man. We are grateful for the welcome you have given us, and we shall hold in pleasant memory the days that we spend in your midst when on Saturday we return the keys of the city that you have given us. And it will be with sincere appreciation of the hospitality and kindness you have shown us while in your midst."

One of the most entertaining features of the evening's program was the physical culture exercises given by pupils of the Evansville schools. Following these exercises, J. P. Funk, of the New Albany schools, the retiring President, after stating that he had a prejudice against retiring addresses, introduced the President, Superintendent W. H. Wiley, of the Terre Haute schools. The subject of Mr. Wiley's inaugural address

was "The Teacher's Opportunity." The address was full of practical suggestion for the teacher in his every-day work. He claims that the teacher's position is becoming more stable from year to year, and therefore abundant opportunity is vouchsafed for carrying forward the work of any given community in a broad and liberal spirit. The facilities for teaching a successful school are rapidly approaching the best ideals. It is the business of the teacher to correct the errors and misconceptions that may have crept into the school and then add somewhat to "the strength and beauty and ornamentation of the educational temple itself." The teacher has the opportunity to harmonize the home, the school and the community. He can do much as a citizen. He should be identified with many of the enterprises which help to mark a commendable progress in the community. The following are some of the things named by the speaker under this head: "Cheerful compliance with the laws governing the corporation, the prompt payment of all financial obligations, the acquisition of property for taxation and a home, attendance upon town meetings, the exercise of the elective franchise for the best candidate, an active part in the literary or scientific club, and an earnest helper in the management and improvement of the public library and the public park. It is claimed that such duties will broaden and liberalize the teacher, besides furnishing a great leverage in controlling and influencing the school and moulding the character of the community in a higher ideal."

The speaker maintained that all reforms must be worked out by the teacher.

The association will meet at Seymour next year. The officers are: President, Chas. N. Peak, of Princeton; First Vice President, Calvin F. McIntosh, of Spencer; Second Vice President, Hamilton Powell, of Rockport; Secretary, Miss Lizzie Beal, of Terre Haute; Treasurer, W. D. Kerlin, of Martinsville.

The Executive Committee is as follows: H. C. Montgomery, of Seymour, Chairman; W. F. Axtell, of Washington; W. H. Glascock, of Bloomington; Horace Ellis, of Franklin; A. R. Chanman, of Terre Haute; Robt. Spear, of Evansville; Levi Scott, of New Albany.

ARITHMETIC SOLUTIONS.

Readers of the Journal have requested solutions to the following problems in the Indiana Advanced Arithmetic:

Page 327, problem 35:

Consider the grindstone of uniform density and thickness; otherwise there could be no solution from given data. In substance, the problem is this: How much must the diameter of a 36-inch circle be shortened to reduce its area one-fourth?

Solution:

$(36)^2 \times .7854 = 1017.8784$, number of square inches in area of circle before it is reduced.

$\frac{3}{4}$ of 1017.8784 square inches = 763.4088 square inches, the area after it has been reduced one-fourth.

$\sqrt{763.4088 \div .7854} = 31.17 +$, number of inches in the diameter after the reduction.

36 inches $- 31.17 +$ inches = 4.83 inches, what the diameter must be reduced.

The answer in the book is wrong. This problem may be solved by proportion.

Page 326, problem 20:

Evidently the field is square.

Assume 1 as the side of the field.

$(1)^2 + (1)^2 = 2$. $\sqrt{2} = 1.4142$, the diagonal, approximate. $1.4142 - 1 = .4142$, the excess of the diagonal over a side of the square.

16.568 rods = the excess of the diagonal over a side. $.4142$ excess = 16.568 rods.

16.568 rods $\div .4142 = 40$ rods, length of one side of the field.

$40 \times 40 = 1600$, the number of square rods in the field. 1600 square rods = 10 acres, area of the field.

Page 326, problem 15. The correct answer is 27.73; the answer in the book is wrong.

On the same page, the answer to problem 16, is $\sqrt{3}$. The book has it $\sqrt{2}$, which is wrong.

Page 252, problem 19; answer should be 223.9+ bbls.

Page 253, problem 34; answer should be 2,057+ bushels.

Page 254, problem 48. Brussels carpet is always $\frac{3}{4}$ yard wide; the problem presents no further difficulties.

A. JONES.

PAGE 144, PROBLEM 9.

$42 \times 3\frac{1}{2} = 132$, number of inches the fore wheel travels in one revolution.

$49 \times 3\frac{1}{2} = 154$, number of inches the hind wheel travels in one revolution.

154 in. $- 132$ in. = 22 in., distance the front wheel gains on each revolution of the hind wheel.

To gain 22 in., 1 revolution of hind wheel is required. To gain 1 in., $\frac{1}{22}$ revolution of hind wheel is required. To gain 132 in., $132 \times \frac{1}{22}$ revolution = 6 revolutions of hind wheel is required.

6×154 in. = 924 in. 924 in. = 77 ft., distance hind wheel must travel, before the front wheel makes an extra revolution.

PAGE 241, EXAMPLE 27.

240 acres at \$75 are worth \$18,000.

The rent on 240 acres at \$5 $\frac{1}{2}$ is \$1,200, income on farm.

3% of \$18,000 = \$540, commission for selling.

\$540 + \$43 33, amount reserved = \$588.33, commission and reserve.

\$18,000 $-$ \$588.33 = \$17,416.67, net proceeds of farm invested @ 83.

83% market value of insurance stock + $\frac{1}{3}$ % brokerage = 83 $\frac{1}{3}$ %, cost.

A share of stock bought at 83 $\frac{1}{3}$ % costs \$83 $\frac{1}{3}$.

\$17,416.67 \div \$83 $\frac{1}{3}$ = 209, the number of shares of stock.

\$1,260 income on farm + \$203 increase = \$1,463, income on stock.

209 shares, \$100 each, are worth \$20,900, par value of stock.

100% = par value of stock.

\$20,900 = 100%.

\$1 = $\frac{1}{20900}$ of 100% = $\frac{1}{2090}$ %.

\$1,463 = $1,463 \times \frac{1}{2090}$ % = 7%, annual income on stock.

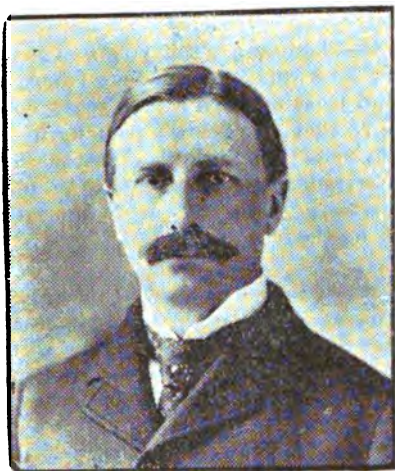
$\frac{1}{2}$ of 7% = 3 $\frac{1}{2}$ %, semi-annual dividend.

"That man must daily wiser grow,
Whose search is bent himself to know."

"Self-reverence, self-knowledge, self-control,

These three alone lead life to sovereign power."

PERSONAL.



C. N. KENDALL.

C. N. Kendall, Superintendent of the New Haven, Conn., public schools, has been elected Superintendent of the Indianapolis public schools. He will take charge in September next. Superintendent Kendall has made a good record at New Haven, and he stands high among the educators of the country.

J. W. Walker, who has been in the employment of the American Book Company for the past eleven years, has severed his connection with that company.

Wm. P. Modlin, State Normal '98, has been elected to the principalship of the Hartford City High School, to succeed C. H. Drybread. Mr. Modlin has been principal of a ward school for the past year and has won his merited promotion.

Superintendent Pratt, of Danville, Ind., and his corps of teachers have been re-elected. Superintendent Pratt's work has grown in public favor steadily, and his teachers have worked together loyally for the betterment of the schools.

Fred Winslow has just closed a successful year at Hardinsburg, and his work here places him in the front rank of our progressive teachers. He will enter Purdue University this spring to remain till he has finished his course.

Bulah Evans, one of the teachers in the Marion schools, after a year's rest, will resume her work at the beginning of the next school year. She reports her health as much more vigorous than formerly, and is quite anxious to return again to her chosen calling.

A. H. Yoder, of Vincennes University, has resigned with a view of entering a larger field of work in the West. His special work—child study—has given him a very wide acquaintance in the Middle West, where he has lectured repeatedly before teachers' associations.

Supt. W. A. Millis, of Attica, has been elected to the superintendency of the Crawfordsville schools. Mr. Millis has accepted the call. Mr. Millis has made an excellent record at Attica, and we are sure that the board of Crawfordsville have made no mistake in securing him for their schools.

Albert H. Sherer, of Gas City, was re-elected on the merits of his work for another year, the first of April. An additional teacher has been added to the high school corps, making fourteen teachers in all. From the most reliable sources comes the information that his work there has been conscientious and strong in every phase of it.

Supt. John A. Carnegie, of Columbus schools, was re-elected Superintendent for another year.

Professor Carnegie has been Superintendent of the city schools for ten years, during which time the advancement and progression of the schools in every department has been marked and indeed creditable to Professor Carnegie's superintendency.

C. H. Drybread, Principal of the Hartford City High School, will succeed F. M. Beard as Superintendent of these schools. This is well, for the work so well begun by Mr. Beard will be brought to maturity under his direction. Mr. Drybread has been Principal of the High School for three years, and his work has given the best satisfaction.

A. C. Yoder, who has been out on a leave of absence the last two years, has resumed his old position as Principal of the Vincennes High School, made vacant by the

resignation of John D. Groves on account of serious illness in his family. Professor Yoder is a first-class man, and we are glad to welcome him back into active school work.

E. G. Bauman, formerly of the Mount Vernon High School, but now of Trinidad, Colorado, writes the Journal that his new field of labor is promising and that Colorado is "a great State." His local papers speak of his efficient and progressive management in the highest terms. The Journal knows from personal observation that he is a capable man, large-hearted, good-natured, and full of energy. Shake, old fellow.

Joseph E. Kelly, of New Harmony, was re-elected Superintendent of said schools for the next school year, April 6, 1900. He has directed these schools to a good advantage and his system of teaching is producing excellent results. The schools have prospered under his management and much good is looked for as a result of his retention for another year.—New Harmony Times.

Etta Blaser, class of '98, Indiana State Normal School, is making an enviable record in primary grade work. She began teaching in Tipton and last November resigned to accept a position at School No. 15, in this city. Her record as a student is borne out in her teaching, and her supervisor speaks of her work in the highest terms. The Journal joins her many friends in hearty congratulations on her success.

John E. Lung, Principal of the Geneva High School, reports a most prosperous school year. The first class completing a four years' course will number twelve, six of each sex, and all are mature and strong in their work. This is Mr. Lung's fifth year, and his re-election is assured. His enthusiasm is equaled only by his earnestness, and the school here shows the effect of his earnest endeavor.

Frank M. Beard, for the last six years Superintendent of the Hartford City schools, will retire from the school work to enter active business next June. When he went to that city there were nineteen teachers

and but two school buildings. Since then three new buildings have been erected and the other two remodeled, and the teaching force has increased to thirty-two. The graduating class this year numbers twenty-one, the first class to finish a four years' course. It seems that Mr. Beard's training in business in connection with his school work will be an excellent recommendation for him in the business world. We wish him success which he richly deserves.

Dr. B. W. Everman formerly head of the department of biology in the Indiana State Normal School has been honored with an invitation to lecture before the students of Cornell University on "Fish Culture and Fish Protection."

This invitation is of more than ordinary importance from the fact that some of the best men in the country are invited to lecture in this course, and it is a matter of pride to the Indiana School Journal to see the ability of an Indiana man thus recognized.

We congratulate Professor Everman, and have noticed with a great deal of pleasure his advancement in the work in which he is now engaged since leaving Indiana for the work of the United States Fish Commissioner.

David K. Goss, whose term as superintendent of the public schools ends on the last day of June, has completed arrangements for establishing an American school for boys in Strasburg, in the south of Germany. Professor Goss will be associated with Dr. William Jaeger, a well-known Cincinnati educator, in his new enterprise. The Indianapolis instructor began preparations for starting the school while in Europe last summer.

He says that the German and French schools on the Continent are all overcrowded and that he is confident that the American parents in Europe will gladly take advantage of the opportunity to place their boys in a school where they can be prepared for the big universities. Professor Goss leaves for Germany with his wife and two sons in July, and the school will be opened in September.

EDITORIAL MENTION.

Henry L. Cannon, of Indianapolis, will engage to do institute work in Indiana during the coming season. He holds the degree of doctor of philosophy and history from the University of Pennsylvania (1898), and is instructor in ancient and American history in the Indianapolis High School. For information as to his work write to Supt. F. L. Jones, Mr. F. A. Cotton, Deputy Superintendent, of Indianapolis, or Mr. George S. Taylor, Superintendent, Jefferson County. Mr. Cannon's address is 1429 Central Avenue, Indianapolis.

BUSINESS NOTICES.

The Northern Indiana Normal School at Valparaiso offers special advantages to persons who desire to attend summer school. See ad. in this number of the Journal.

A FREE SCHOLARSHIP FOR EACH COUNTY IN INDIANA.

Rogers, Ohio, April 16.—The Carnegie College, a newly incorporated college at Rogers, Ohio, in order to introduce its methods of teaching by correspondence, will give one free scholarship to each county in Indiana. The free scholarship gives to the student free tuition in the normal and academic courses, and also in the commercial courses, including bookkeeping and shorthand. All the instruction is given by mail at the student's home. Students making application for free scholarships should write at once to the college and mention this paper and also the county and State.

AN OUTING AT THE OCEAN.

A seashore excursion via Pennsylvania Lines will be run August 9. The annual low-rate excursion to the seashore will be run via Pennsylvania Lines, Thursday, August 9. On that date reduced fare ticket will be sold to Atlantic City, Cape May, Anglesea, Avalon, Holly Beach, Ocean City, Sea Isle City, Wildwood, New Jersey, Tehoboth, Del., and Ocean City, Md. The round trip from Indianapolis will be \$15 to either of the ten resorts mentioned, which constitute the most popular summer havens along the Atlantic coast. No more enjoyable vacation outing can be planned than a visit to the

seashore in midsummer. Arrangements may be made for participating in the pleasures offered by this excursion by communicating with W. W. Richardson, D. P. A., Indianapolis.

SUMMER OUTINGS.

WHERE TO GO AND HOW TO GET THERE.

The Seashore, Mountain and Lake Resorts constitute the most attractive pleasure grounds for the summer idler. They are within easy reach via Pennsylvania Lines, and agents of that railway system will furnish full information about rates, train service and through car comforts to any of the summer havens. They will assist in arranging details for vacation trips and give valuable information free of charge. Apply to the nearest Pennsylvania Lines Passenger and Ticket Agent and be relieved of all bother in shaping preliminaries for your summer outing and vacation trip.

W. W. RICHARDSON,
District Passenger Agt., Indianapolis, Ind.

BOOK NOTICES.

Scott's Quentin Durward. Edited with an Introduction by Mary Harriott Norris. Cloth, 12mo., 332 pages. Price, 50 cents. American Book Company, New York, Cincinnati, and Chicago.

There is no novel in English fiction more useful than Quentin Durward in giving boys and girls a distinct and accurate impression of the age of chivalry when its principles still animated the court life of England and Europe but had ceased to claim the blind reverence of the people. The scene of this "finely wrought story" is laid in Paris at the time of Louis XI, during the latter half of the Fifteenth Century, and portrays the French King as the first of his line to recognize political capacity when not allied to rank. It shows with admirable clearness the rising power of the people and the royal perception that they will prove the bulwark of the crown against the great feudal barons. For these reasons, as well as because it is one of the best and most attractive novels in English literature, the book is particularly adapted for school and supplementary reading.

Shakespeare's *Julius Caesar*, edited with an introduction, notes and suggestive questions, by George W. Hufford, A. M., principal of the High School at Indianapolis, and Lois G. Hufford, A. M., teacher of English literature in the High School at Indianapolis, published by the Macmillan Company, New York. Price, 25 cents.

This edition is intended for the use of young students, therefore, some features which are of interest to more mature minds are omitted.

In the notes no tracing of derivations are given, since the etymology of words may be readily found in dictionaries. Different manuscript readings and conflicting opinions of critics are omitted, but the historical basis as suggested by Plutarch, difficult allusions and meanings of words and phrases, which are unusual or obscure, are supplied.

The special features of the notes are (1) collated peculiarities of grammatical usage, based upon Abbott's "Shakespearian Grammar," a work which is seldom accessible and which is difficult for young students to untangle; (2) an explanation of Shakespeare's verse, with reference to peculiar metrical arrangement in this play.

The aim throughout has been to stimulate and to supply sufficient aid for intelligent reading of the play. The text is the Temple edition.

The "Four Great Americans" series, edited by James Baldwin, Ph. D., and published by The Werner School Book Company, of Chicago, form a "series of reading books that place heroism, patriotism, genius and virtue upon a biographical throne."

The latest volume of the series, "Great American Educators," is on our table. It contains the life stories, with portraits, of Horace Mann, Mary Lyon, David P. Page, Henry Barnard, Edward A. Sheldon, James P. Wickersham, Newton Bateman and John D. Philbrick, who represent the growth of popular education in this country. In addition to these this volume contains life sketches of some of the great founders and benefactors of American colleges:—John Harvard, Elihu Yale, F. A. P. Barnard, Mark Hopkins Charles G. Finney, be-

sides chapters on "American Education," showing the beginning, rise and growth especially of the public schools of America.

This volume on Great American Educators and American Education is by Dr. A. E. Winship, editor of "The Journal of Education," who is especially fitted to prepare a work of great value on this important subject.

Great American Educators will be cordially welcomed by teachers and all others interested in the cause of education.

Psychology for Beginners. By Hiram M. Stanley. The Open Court Publishing Company, Chicago, Ill.

In preparing this little book the author has kept in view the fact that a beginner in psychology needs to acquire psychic insight. He should draw his own conclusions from simple observations and experiments. Therefore, in the back of the book blank pages are furnished for the student's record. This book is suggestive and will prove helpful to any who are beginners. It is suitable for use in summer schools.

Michael Angelo. By Estelle Hurll. Houghton, Mifflin & Company, Boston and Chicago.

The selection of prints in this little volume represent the best work of Michael Angelo in both painting and sculpture. They are not arranged in chronological order, but in a way which will lead the student from the subjects most familiar and easily understood to those which are more difficult.

Webster's Collegiate Dictionary. G. & C. Merriam Company, Springfield, Mass.

The most essential parts of Webster's International Dictionary are presented in this volume in a compact form, making it a convenient form for the general reader and the college student. The less familiar technical terms and most obsolete words are omitted. The pronunciation is indicated by the respelling of the word. Letters are marked diacritically as they are marked in the school books of the country. The various definitions of words are given in the order of their historical development.

ANSWERS TO STATE QUESTIONS.

READING.

(Based on the general field of reading.)

(Any five.)

1. Will the pupil who understands the thought of the passage be sure to read it correctly?
2. What is emphasis, and what its use?
3. What is the educational value of reading as compared with other branches?
4. What is the difference between accent and emphasis?
- 5 and 6. Ask five questions best adapted to bring out the meaning of the following:
 "Who steals my purse steals trash; 'tis something, nothing;
 'Twas mine, 'tis his, and has been slave to thousands,
 But he that filches from me my good name,
 Robs me of that which not enriches him and makes me poor indeed."
7. What general preparation does the teacher of reading need?

(Based on "How to Teach Reading.")

(Any five.)

1. Give the "time" in which each principal part of the following should be read:
 "Then whirling up his broad-sword
 With both hands to the height,
 He rushed against Horatius
 And smote him with his might.
 With shield and blade Horatius
 Right deftly turned the blow;
 The blow, though turned, yet came too nigh,
 It missed his helm, but gashed his thigh;
 The Tuscan raised a joyful cry
 To see the red blood flow."
2. What is the appropriate "pitch" for soliloquy? Why?
3. What "pitch" is appropriate to climax?
4. What is *strength* in literature?
5. What relation does a knowledge of psychology bear to the successful teaching of reading?
6. What effect will the habit of careless and incorrect reading have upon the general scholarship of the pupil? Specify.
7. Read the following to the Superintendent:
 "Farewell, a long farewell to all my greatness;
 This is the state of man; to-day he puts forth
 The tender leaves of hope; to-morrow blossoms,
 And bears his blushing honors thick upon him;
 The third day comes a frost—a killing frost
 And—when he thinks, good easy man, full surely
 His greatness is a ripening—nips his root,
 And then he falls, as I do."

Answers.

(Based on the general field of reading.)

1. He may not, for sometimes it takes practice and training to read a passage correctly, even though you understand the thought.
2. Emphasis is stress of voice applied to a particular word or group of words, to enforce its

meaning and to draw the attention of the hearer particularly to the idea impressed.

3. It is the foundation of much of our education; much of it can not be acquired without the ability to read; and much that we can get without reading is of little value unless we mix it with the ideas gathered from the printed page. No other branch is so important, because it is both the way to knowledge and a great source of knowledge.

4. Accent is stress of voice applied to a particular *syllable*, while emphasis is applied to a particular word or group of words. (See answer 2.)

5 and 6. (a) Between what two things is a contrast drawn?

(b) What figure of speech is the use of "purse"?

(c) What has been slave to thousands?

(d) In what way?

(e) Compare the two robberies as to degree of wrong.

7. Preparation in noble character; in power of appreciation; in voice culture; in literary interpretation; and in general education.

(Based on "How to Teach Reading.")

1. (a) The first four lines should be read with quick movement; (b) the fifth and sixth lines with moderate movement; (c) the last form with slow movement.

2. The appropriate pitch for soliloquy is moderately low if the mental tension is moderate; and high if the mental tension is strong. It varies according to the degree of tension.

3. There is no certain pitch appropriate to climax. No definite method of expressing a climax can be laid down. In one case the pitch may rise; in another it may fall. Sometimes the force increases; at other times it diminishes. (See page 220).

4. Strength in literature embodies three factors, (a) the content and (b) the language chosen to express it, and (c) the condition of the people of whose life the literature is a reflection and a reproduction. Let the feelings, thoughts and acts of the content be noble or sublime, or intense, as the case may be; let the language be especially fitting in setting them forth, the words, phrases and clauses so constructed and marshalled in order as to present the greatest vigor and force with the least expenditure of material; and let the people whose life the literature unfolds be strong and great. When these factors are all present in full degree the literature possesses strength.

5. There is an intimate relation. As the reader passes his eyes along the lines, his mind must be picturing the images and constructing the thoughts. The mind in the early years of learning to read needs to be gradually trained to do these acts with clearness, promptness and precision. For a teacher to do this he needs must understand the laws of mind action and growth. He must understand that thinking takes time and can not be hurried. Pauses, pitch, melody, the figures of speech, etc., all have more or less to do with psychological processes.

6. Carelessness and incorrectness in any line of work will, through force of habit, bear similar fruit in other lines; moreover, if the foundation is weak, the superstructure will be frail. (See answer to 3 in preceding list above.) The general scholarship of the pupil will be scrappy, disconnected and superficial by reason of inability to glean carefully and correctly the printed page, and thus unify all the ideas of the subject into a complete whole.

GRAMMAR.

(Any seven, not omitting the 8th and 10th.)

"The hills are dearest which our childish feet
Have climbed the earliest, and the streams most sweet
Are over those at which our young lips drank,
Stoop'd to their waters o'er the grassy bank."

- (a) Name the principal clauses in the above.
(b) Name the subordinate clauses.
- Under-score with one line the subjects and with two lines the predicates of each clause, both principal and subordinate.
- (a) Select the connectives and classify them.
(b) State what the following phrases modify: (a) "at which"; (b) "o'er the grassy bank."
- State what each of the following modifies: (a) "which" (line 1); (b) "most sweet"; (c) "ever"; (d) "stoop'd."
- Classify the following verbs as transitive or intransitive and give the tense of each: (a) "are" (line 1); (b) "have climbed"; (c) "drank."
- Give the syntax (case and reason) of (a) "feet"; (b) "streams"; (c) "those."
- Select an adjective in (a) the positive degree; (b) one in the superlative degree; (c) select an adverb in the superlative degree.
- Give your opinion of the main objects to be kept in view, and the method and means to be used in teaching the English language in the Grammar grades.
- Which is the most profitable from a disciplinary point of view in the study of language, the acquisition of principles, rules, definitions, parsing, and analysing, or practical composition work? Explain fully.

10. Write not less than 15 lines on one of the following subjects, giving the closest attention both to the thought and the mechanical features of your composition.

- Should newspapers be used in school work?
- How a school house should be furnished.
- Some possibilities of the twentieth century.

Answers.

1. (a) 1. Hills are dearest. 2. Streams are those.

(b) 1. Feet have climbed which. 2. Lips drank.

2. In (a) above, *hills* and *streams* are the subjects; *are dearest* and *are those* are the predicates.

In (b) above, *feet* and *lips* are the subjects; *have climbed* and *drank* are the predicates.

3. (a) The connectives *which* and *which* are relative pronouns; and is a coordinate conjunction; (b) *at which* modifies *drank*; *o'er the grassy bank* modifies *stooped*.

4. (a) *Which*, the object of *climbed*, is a relative pronoun, joining its clause to *hills*; (b) *most sweet* modifies *streams*; (c) *ever* modifies *are*; and (d) *stooped* modifies *lips*.

5. (a) *Are* is a neuter verb, in the present tense; (b) *have climbed* is a regular transitive verb, in the present perfect tense; (c) *drank* is an irregular intransitive verb in the past tense.

6. (a) *Feet* is in the nominative case, subject of *have climbed*; (b) *streams* is in the nominative case, subject of *are*; (c) *those* is in the predicate nominative case after *are*.

7. (a) *sweet* is an adjective in the positive degree; (b) *dearest* is an adjective in the superlative degree; (c) and *earliest* is an adverb in the superlative degree.

8. (a) The main objects to be kept in view are (1) to develop the power of correct expression, oral or written; (2) to discover the laws of discourse in general; (3) to keep in view the study of the sentence as a means of discipline.

(b) The method to be used is the natural development of the sentence, beginning with short sentences embodying the subject and the predicate, and gradually adding one element after another until all the possible parts have been studied as to their uses and relations.

(c) The means to be used are sentences that may be constructed by the pupils; the readers; the various books on language instruction.

9. Practical composition work is the most valuable from either a practical or a disciplinary point of view; for there is no other discipline more valuable than to study thought through its outward form, the sentence, and to discover the

fitness of the different parts of the expression to the parts of the thought. So much of the *technical* matter in grammar is simply verbiage that very little discipline can be gained from it.

SCIENCE OF EDUCATION.

(Any five)

1. What argument is used by the author of "Organic Education" to show that children can comprehend the subjects of sociology, art and ethics?
2. How are these subjects to be presented to the children from the first grade up?
3. Is it true that the child's first desire for an expressive interpretation of the facts of life is satisfied with animal stories and myths? If this is the case, can you offer any explanation of the fact?
4. Instead of the formal use of a reading book, some schools seek to give the child a knowledge of the best literary products of the race by the study in each grade of such literature as he can fairly comprehend. Express your opinion of this practice, giving reasons.
5. Is it possible, in your opinion, to lead children into an appreciation of the true relation of the individual to society? How can the schools do this, if at all?
6. Characterize the education of the Christian countries of the world from the beginning of the Christian era to the Reformation.
(Note to Superintendent.—This question should be graded on the basis of two-fifths of the examination.)
7. What led to the neglect of physical education during the early Christian centuries?
8. In the fourth century A. D., Basil the Great said: "The habit of reading bad actions leads to doing bad acts." Express your opinion of this doctrine, giving reasons.
9. Suppose the Bible were studied in the public schools as other literature is studied, what arguments could be adduced in support of the practice? What objections, if any, could be reasonably made?

Answers.

1. (See pages 23 and 24.) That the child can grasp any subject whatever, if it only be unfolded to him in logical order in response to the demands of his own interest; and actual results of the teaching of these subjects by the organization method have demonstrated this fact.

2. These subjects are to be presented to the children year by year by the slow assimilation plan. Let them be surrounded from an early age by the forms of art which precisely answer the demands of their own interest in each stage of its development; let them be given, at first, animal stories and nature myths in keeping with their desire, which continually grows and

changes, each year demanding something of a higher nature and thought; let their ethical knowledge come to them gradually, largely as matters of experience and observation, their ideals growing out of their judgment of the conduct of themselves and their companions; they thus acquire the habit of reflecting upon conduct and its consequences in relation to their own lives. (See pages 25, 26 and 27.)

3. See pages 25, 26 and 27, and answer to 2.

4. It is the proper practice, for without comprehending it he would not be interested, and lack of interest is fatal to progress; moreover, such literature deals with life as he has experienced it, embracing a field of ideas and motives of great interest and benefit to him. This caution, however, is needed here, that the literature be such as would cost him effort to assimilate and make good working material for future acquisitions.

5. It is possible and proper. A child among his own companions may be led to see his proper relation to them as to conduct. Ideals not pertinent to his life or time are not brought to his sphere of thought or action. He reflects only on those that pertain to his relation to others. When this is done throughout his school life he is then capable of taking his place in the world as a most useful and valuable member of society.

6. The child was at first educated simply to help the family in the household. The first schools were in the care of the priests. In time they became somewhat separate from them. The Romans trained the child for a political life as well as for the home life; and Greece added the general subjects of music and gymnastics, embodying all mental and physical training known at the time. Teachers now arose who made their pupils skillful in argument, reasoning, and oratory.

The Christians during this period got much of their learning in the pagan schools, and of course wore the mask of its source. Much hatred of education was engendered by these schools. The subjects taught were grammar, dialectics, rhetoric, music, arithmetic, geometry, and astronomy. These were taught in a very poor manner; to these were added several accomplishments in a physical way.

Education was not characterized by definiteness or organization. The conditions for study had not been considered seriously. At about 700 A. D. scarcely any attempts were made in education. A little later schools arose in which literature and science received attention; these were

followed by debates, and in the thirteenth century universities were established, followed by the "Revival of Learning," the restoring of civilization as to its intellectual elements.

7. There was no feeling among the people as to the necessity for it. Among those who took any special interest in education, only the mental phase was deemed of any special value. Theology and metaphysics, logic and philosophy were the subjects investigated and expounded by the schoolmen. Much that they said and did was very foolish, yet their influence upon the intellectual development of Europe was very important and far reaching.

8. It is a correct doctrine, whether we will it or not, we are insensibly influenced by what we read. Many persons become entirely revolutionized in their views by a steady course of reading in a certain line. This seemingly instinctive concession to the line of thought we are gathering from a book, is a very dangerous one, if the book is an objectionable one. Boys, after reading books of the character of the "The James Boys," have been known to run away from home and to undertake to imitate the life of those criminals.

9. In support of the practice, it can be truthfully said that no other book treats of such noble virtues as are exemplified in some of the Bible characters; the doings of many of its personages are worthy of the closest study and imitation; in many places its literature is of the highest type. If morals and many other virtues, and literature and history were the sole objects sought and taught, there could be no reasonable objection to its being used as a text-book in the public schools.

GEOGRAPHY.

(Any seven, not omitting 7 and 9.)

1. What part of the Atlantic coast of America is due west of Spain?
2. State approximately the latitude of Indianapolis.
3. How do you account for the mildness of the climate on the west coast of Norway?
4. What is drift? Where found?
5. Name eight colonial possessions of Great Britain.
6. (a) Distinguish between anthracite and bituminous coal.
(b) Name four counties in Indiana which produce coal.
7. What are the zones of light? How are they bounded?
8. State fully why Michigan produces so much fruit.
9. Why is the range of temperature from winter to summer so small on the Pacific coast?

10. What New England State has no coast line?
11. Of what materials is a volcanic mountain composed?

Answers.

1. Approximately the part of the coast of America that is due west of Spain is between the latitude of Portland, Maine, and that of Cape Charles, Virginia.

2. The latitude of Indianapolis is approximately 39½°.

3. The Gulf Stream coming from the equatorial regions moderates the climate of all those lands along which it passes; hence the mildness of the climate along the coast of this northern land.

4. Drift is an accumulation of earthy materials, clay, sand, gravel, etc., which has been transported by moving masses of ice and deposited over portions of the earth's surface, mostly in higher latitudes. It is found in most of North America north of 40° latitude. In Europe, the chief places are in Scandinavia, Russia, and Germany.

5. Eight colonial possessions of the British Isles are, British India, Ceylon, Cape Colony and its dependencies, Dominion of Canada, British Honduras, British Guiana, Australia, and New Zealand.

6. (a) Anthracite coal differs from bituminous coal in that it contains little or no bitumen; in consequence of this the anthracite burns with nearly a non-luminous flame while the bituminous burns with a yellow, smoky flame.

(b) Indiana contains nearly 7,000 square miles of workable coal fields. This area occupies a part or all of nineteen counties in the southwestern part of the State, extending from Warren County southward 150 miles to the Ohio River. Block coal occurs in three counties, Clay, Owen and Parke. Bituminous coal lands, as yet undeveloped, are found in many parts of the coal area, the best probably occurring in Greene, Sullivan and Pike counties. Cannel coal, a dull, textureless variety of the bituminous, rich in gaseous constituents, occurs in several of the southern counties, and is mined at Cannelsburgh, Daviess County.

7. We have not heard of "Zones of Light" under this name; perhaps "Zones of Life" are meant. There are three great zones of life—animals and plants—the ocean, the land, and the fresh water; and in each of these there are sub-zones in which the animals and plants differ because of variations of temperature. The sub-

ect of the distribution of animals and plants is a very broad and complex one, but one that is exceedingly interesting. (See Tarr's Phys. Geog., Chapter XI.)

Some prefer to divide the earth into six well marked regions of life—the Australian, South American, African, Oriental, Eurasian, and North American regions, the plants and animals of each differing to a greater or less extent from those of all other regions.

8. The winter temperature is much modified by the open waters of the adjacent lakes. The severe winds are commonly from the west and northwest, but in sweeping across the open waters of Lake Michigan they are so far softened as to make the climate much milder than that formed in the same latitude on the western side of the lake. This peculiarity is especially favorable to the growth of fruits. This modifying influence of the lake winds makes Michigan the best apple-producing section in the world.

9. The range of temperature from winter to summer is small on the Pacific coast because of the moderating influence of the Japanese ocean current, and of the winds from the warm ocean.

10. Vermont is a New England State with no coast line.

11. A volcanic mountain is composed chiefly of lava, rocks, cinders, and ashes.

PHYSIOLOGY AND SCIENTIFIC TEMPER- ANCE.

(Any seven.)

1. What are the great divisions of the nervous system?
(b) How many pairs of nerves in each?
2. Where are the sebaceous glands, and what are their functions?
3. How is voice produced?
4. Name the secretions of the alimentary canal and the points at which they occur.
5. Why is nitrogenous food a necessity?
6. Describe the pericardium! What is its use?
7. Of what importance is exercise to a healthy condition of the muscles?
8. What are the characteristics of the alcoholic appetite as contrasted with the appetite for foods generally?

Answers.

1. (a) The cerebro-spinal and the sympathetic.

(b) In the cerebro-spinal system there are forty-three pairs of nerves. In the sympathetic there are twenty-four pairs of ganglia, and each ganglion is united by communicating branches with the neighboring spinal nerves.

2. The sebaceous glands are small glands which open into the little pits out of which the hairs grow. They secrete a kind of oil, which renders the epidermal layer less pervious to water, and prevents it from becoming dry and cracking open. It also softens the hair and keeps it from becoming brittle.

3. A vocal sound is produced by bringing the stretched edge of the vocal cords close together and parallel to each other, leaving a very narrow slip between them, and while in this condition forcing a current of air past them. The sound is produced by the vibration of these stretched elastic membranes, in just the same manner as it is produced in all reed instruments.

4. The mucus, in the mouth; the gastric juice, in the stomach; the intestinal juice, chiefly in the duodenum. To these we might add, as indirectly connected with the alimentary canal, the saliva from the salivary glands; the pancreatic juice from the pancreas; and the bile from the liver.

5. Nitrogenous food is a necessity, because all the tissues contain nitrogen; hence their growth and repair absolutely demand nitrogenous foods.

6. The outer surface of the heart is covered by a thin membrane, which extends up over parts of the great blood vessels, and turns down again to close in the heart by a sack. This is the pericardium. This leaves a space between the outer portion of the sack and the portion on the surface of the heart. In this space is a liquid called the pericardial fluid. The pericardium with its liquid is a contrivance for lessening, as much as possible, the friction against the sides of the heart, caused by its strong, rapid motions.

7. The moment a muscle begins to work, great changes take place in its cells; by aid of the nervous system, the blood vessels going to the active muscle are relaxed and an increased amount of blood is allowed to flow through the muscle. The repetition of these conditions, inside of certain limits, leaves the muscles in a healthy condition. When the muscles are active the nervous system is equally active, with the same results of increased flow of blood and better condition.

8. The characteristics of the alcoholic appetite are much more marked than those of food generally. The appetite for alcohol is that of a burning thirst that demands an irritant as well as a liquid, and the demand is to satisfy a craving of the lining mucous membrane rather than to satisfy a need of the whole system.

ARITHMETIC.

(Answer any six, not omitting No. 2.)

1. What is the Speer method in number?
2. Add 662347; 257938; 699477; 893296; 478469;
328947; 886539; 445328; 768894; 325537;
894503; 431164; 405008; 601115; 999999.
3. A real estate agent wishes to divide three pieces of land 325, 625 and 950 feet wide into town lots of equal width. What is the largest possible width for each lot?
4. Into a vessel containing pure vinegar there was poured $12\frac{1}{2}$ gallons of water, which was $16\frac{1}{2}\%$ per cent. of the mixture. What was the quantity of pure vinegar?
5. A man travels until his watch is 1 hour, 5 minutes, 16 seconds slow. Has he traveled east or west and through how many degrees?
6. The municipal rates being reduced from $19\frac{1}{2}\%$ mills to $17\frac{1}{2}\%$ mills on the dollar, my taxes are lowered by \$1.05. For how much am I assessed?
7. Algebra.—A house and garden cost \$850. Five times the price of the house was equal to twelve times the price of the garden. Find the price of each.

Answers.

1. The Speer method in number is one that considers number as a ratio, and not as "how many" in the usual meaning of this term. In the development of the Speer method there are three stages: (1) The discovery of the qualitative relations of magnitude, *i. e.*, that one magnitude is longer or shorter, larger or smaller, heavier or lighter, etc., than another. (2) The discovery of the quantitative relations of magnitude as expressed by their ratios, *i. e.*, how many times one magnitude is longer or shorter, larger or smaller, heavier or lighter, etc., than another. (3) The determination of the plan of procedure in the solution of problems from the ratios of the magnitudes involved.

2. Answer 9068561.

3. The greatest common divisor of the three numbers is 25; hence the width of each lot is 25 feet.

4. $16\frac{1}{2}\% = \frac{1}{6}$; $\frac{1}{6}$ of the mixture = $12\frac{1}{2}$ gallons; hence, the mixture equals 75 gallons; $75 - 12\frac{1}{2} = 62\frac{1}{2}$, the number of gallons of pure vinegar.

5. He has traveled eastward through a distance of $16^{\circ} 19'$; 1 hr., 5 min., 16 sec. of time corresponds to $16^{\circ} 19'$ of longitude.

6. $19\frac{1}{2}\%$ mills less $17\frac{1}{2}\%$ mills = $1\frac{1}{2}\%$ mills; this difference in rate corresponds to a difference in taxes of \$4.05; $4.05 \div .0015 = 2700$, the number of dollars for which he is assessed.

7. Let x = price of the house, and y = the price of the garden; then $x + y = 850$, and $5x = 12y$. Or thus:

$$\begin{aligned} x + y &= 850 \quad (a) \\ 5x - 12y &= 0 \quad (b) \\ 12x + 12y &= 10200 \quad (c) = (a) \times 12 \\ 17x &= 10200 \quad (d) = (b) + (c) \\ x &= 600 \quad (e) = (d) \div 17 \\ 600 + y &= 850 \quad (f) = (a), \text{ with} \\ &\quad \text{value of } x \text{ substituted.} \\ y &= 250 \quad (g) = (f), \text{ with} \\ &\quad 650 \text{ transposed.} \end{aligned}$$

HISTORY.

(Any five.)

1. To what monarch did Columbus first apply for aid in his voyage of discovery? Why did he apply there rather than to other countries?
2. What controlling motives influenced the respective nations that engaged in the settlement of North America?
3. Describe briefly the Patroon System in New York.
4. What were the territorial limits of the United States as established by the treaty of 1783?
5. With what important enterprise or invention was each of the following named persons especially connected:
Robert Fulton.
De Witt Clinton.
Samuel F. B. Morse.
Cyrus McCormick.
Elias Howe.
Cyrus W. Field.
6. What was the effect in the Northern States of the passage of the Kansas-Nebraska Bill?
7. What disputes led to the impeachment of President Johnson?

Answers.

1. The Senate of Genoa had the honor to receive the first offer and the responsibility of refusing it. He next turned to King John II, of Portugal, partly because he had been rejected by his native city, and partly because he was acquainted in Portugal, had married there, and many among Portuguese were skilled seamen ready for discovery and enterprise.

2. The English organized settlements (a) for purposes of trade in fish and furs (Newfoundland); (b) to discover mines of precious metals in Virginia; (c) to get rid of a restless class of disbanded soldiers and of young men out of work; (d) to open up new markets for English goods; (e) to procure a cheap and abundant supply of ship-timber, tar and rosin; (f) to find fortunes of some kind in the new lands; (g) to find a passage

to the Pacific and the Indies; (h) to found an English colonial empire in America and to put a bridle on the King of Spain (*Raleigh*, 1584). The Dutch sent out an expedition (1609) to discover a passage through America to the Indies; from this expedition came the settlement of New York and the purpose of the Dutch to open up fur traffic with the Indians. Columbus, for the Spaniards, wished (a) to find a new route to the Indies for the purposes of trade; to carry the Catholic faith to the nations of the far East; to gain for himself fame and fortune. Other Spanish settlements were made for one or more of these purposes.

The French, at Port Royal, had for their object the building up of a Protestant commonwealth. In some of their expeditions they also were searching for a passage to India. Other purposes of the French were conquest, fur trade and missions. The Separatists, by going to America, hoped to build up a strong, prosperous English colony, to enjoy entire liberty of worship, and to advance the gospel in those remote parts of the world, and to serve as stepping stones unto others for performing so good a work. The Puritans came to America to escape political and religious persecution. Oglethorpe, in his settlement (1733), wished (a) to give the worthy and honest poor of England—especially those confined in debtors' prisons—an opportunity to begin life anew; (b) to furnish a refuge to the persecuted Protestants of southern Europe; (c) to protect the Carolinians against the attacks of the Spaniards of Florida by building up a settlement on the southern frontier.

3. To encourage emigration the States-General of Holland granted to the company a new charter by which the patroon system was established. This system permitted any member of the Dutch West India Company who would, within four years, bring into the colony fifty settlers, to own a landed estate with a water front of sixteen miles, if on but one side of the Hudson, or eight miles if on both sides. This great land-owner, or patroon, might extend his estate inland as far as he thought desirable. In all cases the land was to be fairly bought of the Indians. These patroons exercised almost absolute power over their tenants. In fact, the patroons

resembled feudal lords, and the tenants resembled the vassals of feudal times. It should be noted that the patroons were each required to support a minister and a school teacher, in order that religious education should not suffer. This wise provision indicated the sturdy, wholesome character of the Dutch people.

4. By the treaty of 1783 the boundary of the United States was declared to be about what is the present northern boundary from the mouth of the St. Croix River in Maine to the Lake of the Woods, and then due west to the Mississippi (which was, of course, an impossible line, for that river does not rise in Canada); then down the Mississippi to 31° north latitude; then eastward along that parallel of latitude to the Apalachicola River, and then by what is the present north boundary of Florida to the Atlantic.

5. Fulton first successfully applied steam to boats as a motive power.

DeWitt Clinton was the one who suggested and carried out the building of the Erie Canal.

Samuel F. B. Morse was the inventor of the electric telegraph.

Cyrus McCormick was the inventor of the reaping machine.

Elias Howe invented the sewing machine.

Cyrus W. Field was the inventor of the submarine cable.

6. Meetings were held in many leading northern cities and money was raised for the support of emigrant aid societies to send settlers to Kansas. In July, 1854, a band of free-State men, sent on by the New England Emigrant Aid Society, entered Kansas and founded Lawrence. Other anti-slavery towns were soon founded. All over the north the people were aroused to action to prevent the fastening of slavery upon the coming State of Kansas.

7. The disputes were between Congress and President Johnson, chiefly in regard to the plan of reconstructing the southern States that had seceded. The two acts—the Reconstruction Act and the Tenure of Office Act—were passed by Congress in direct opposition to President Johnson's views, and he at once violated the latter in a way that caused him to be impeached.

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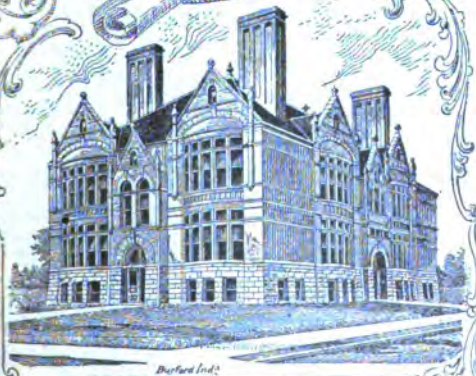
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INDIANA SCHOOL JOURNAL

VOL. XLV.

JUNE, 1900.

NUMBER 6.

SOME SUGGESTIONS FOR A COURSE IN NATURE STUDY.

E. B. BRYAN, ASSOCIATE PROFESSOR PEDAGOGY, INDIANA UNIVERSITY.

Last month I made a plea for Nature Study in the elementary schools and gave different standpoints from which the subject may be considered. This time I wish to suggest in a very general way a plan for a course in Nature Study. What I shall say will be from the standpoint of the pedagogue rather than that of the scientist; nevertheless, I hope that it will tally with science as well as pedagogy. Indeed, if it be good pedagogy, it must tally with science. The standpoint which I wish to take in this paper is that of the cultural epoch, or recapitulation theory. I take this point of view recognizing that it is but one out of many, and that strictly interpreted it may not in all its applications be faultless, but it has the merits of much truth and suggestiveness. In no science have the epochs in human development been worked out more definitely and satisfactorily than in the science of Economics. The evolutionary or historical economist recognizes as a rule four or five great epochs in the development of industrial life up to the present time: (1) The stage of hunting and fishing. (2) The pastoral stage. (3) The stage of agriculture. (4) The stage of trades and commerce, and the beginning of the division of labor. (5) The industrial stage. In the stage of hunting and fishing we find the very simplest and crudest style of living. There are for most part no fixed homes. The people live upon the game and fish

which they are able to catch, and upon edible plants that grow wild. If the wild animal which the hunter overtakes and kills be large and difficult to carry, the family is brought to it and new headquarters is established. The entire conditions are such as to make anything like a permanent habitat impossible. With the fisherman it is somewhat different. Wherever in river or lake many fish are found there the fisherman and his family are apt to be attracted, and inasmuch as the supply is practically constant, there will be a disposition to remain. This is conducive to a more permanent abode and is one of the first long steps toward the fixed home. We have hardly realized what it meant for civilization that the family should begin to live within four walls that they call home. This it seems to me was the first long step forward.

Although it meant much for civilization, it was not a difficult transition from the stage of hunting and fishing to the pastoral stage. Often young animals would be captured and kept as pets. Many of these pets were found to be useful and were pressed into service, and so we have the domestication of animals, the second great step forward. But in this stage the people lived extensively rather than intensively. Their flocks and herds were pastured upon the uncultivated plains and valleys, and when the supply of pasture or water was exhausted, there was no plowing

and sowing, and no digging of wells, but the family or tribe with its flocks of sheep and goats, and herds of cattle and horses, moved on to a place where nature had more bountifully supplied their needs. Such a mode of life, with the exception perhaps of a few scattering tribes here and there, must necessarily be transitory. With the growth in population and the rapid increase in flocks and herds, there will come a time when unassisted nature will not provide sufficiently to meet the demands upon it. Extensive life, mere spreading out will not suffice. Men must learn to dig down to assist nature, to make the native soil bring forth fifty or a hundred fold. He must begin to live intensively in the form of the cultivation of plants and a further cultivation of animals. He must become an agriculturist—the third long step in advance.

Agriculture is conducive to permanent homes. The soil must be tilled and the crops gathered; and systematic work becomes a necessity. In the next step nature plays a very important role. Not all parts of the earth produce alike in quantity or kind; and so, the agriculturist in a given region finds that although he is able to produce copiously things which are indigenous to the soil, there are many desirable things that his region will not produce. He may have a supply or an over supply of barley or potatoes, but can not raise rice and sugar. While on the other hand, another agriculturist in another region has an over supply of both these, but has nothing, it may be, from which to make bread. The natural result will be an exchange of goods—at first an exchange in kind—barley will be traded for rice. Then will come the introduction of money, and finally credit. At first the producers carry their own goods and make the exchanges between themselves; later,

there will come to be a middle man—one whose business it is to carry goods back and forth. That is to say, trades and commerce and the division of labor have set in. This is the fourth long step in civilization.

The man does not, however, relish his hard-earned rice until it has been cooked and prepared for food, neither does the other one enjoy barley in the bushel. Cooking is one of the very earliest forms of manufacturing. (I wonder if it wouldn't change our social attitudes somewhat if we fully recognized that the cook is engaged in one of the oldest and most serviceable of manufacturing industries?) So there must come to be better means for cooking—better stoves, better houses for the stoves, better cooking utensils, etc., which suggest at once better establishments for the manufacture of these things. This carries with it the mining of metals and their transportation, which means finally, the building of railroads, bridges, warehouses, and wholesale and retail stores, the extremest division of labor, and the transaction of business under the credit system. A like demand and increase in complexity would be found in tracing out the evolution of clothing or any of the fundamental needs of man. We have reached what may be termed the industrial stage—the fifth long step in civilization.

It is perfectly evident to every one that when an advanced plane has been reached the older and lower are not entirely forsaken. When for example, agriculture had become thoroughly established as a human pursuit, there were still many herdsmen and shepherds. There were still many whose chief occupation was hunting and fishing. And in the industrial stage of to-day, we not only have not passed out of and beyond the earlier stages, but on

the other hand are even more dependent upon them than ever. The agricultural stage was an earlier stage than the so-called industrial, but it is not therefore a rudimentary stage, but serves and always must serve as the chief corner-stone of our industrial life. And so with trades and commerce. Here again agriculture is a chief corner-stone while the two co-operate in making the industrial life possible. The industrial stage then is the highest stage only in this sense, that it is the earliest stage and is the fruitage of all the stages that have preceded it, and not that it is higher in itself.

So far I have tried to lay the foundation for some suggestions on the work in Nature Study. One of the dangers that threaten society to-day is that people for various reasons are becoming dissatisfied with country life and the vocations and opportunities open to them there. The result is that they are flocking to the great industrial centers. This means on the one hand a great loss from the original productive forces, and on the other hand a congestion of the industrial centers, an abnormal competition, disappointment, idleness, dissipation and death. I believe that it is the duty of the school to cultivate an interest in plants and animals, and so far as possible a love for them. I believe that no small share of the time in the elementary schools in the country as well as in the city should be given to a study of the significance of plants and animals, of agriculture, in our lives, and thereby the most wholesome respect created for these vocations and those engaged in them. I do think that it is imperative that young men should have a chance to see that brains and training are needed for the highest success in agriculture as much as they are for the successful pursuit of any of the so-called learned professions,

and I do not think that it is imperative that young women should have an opportunity to see that it requires as much grace, skill, and training to preside over a well regulated home as it does to make a speech. This condition of affairs will never be brought about so long as teachers and parents keep before the children as the highest end in life the positions of honor, so-called.

I know of no way whereby a wholesome attitude toward this so very vital problem can be created so well as by a systematic course in Nature Study which runs parallel to the five stages in the development of civilization, as given at the beginning of this paper. The most noteworthy attempt at this phase of correlation is that of Dr. O. W. Beyer with a quoted sketch of whose work I will close this paper.

"It has often been noted in recent years that one of the best motives for the human intellect in the approach to a study of nature lies in the relations which scientific thought bears and always has borne to human institutions and human progress. The question of priority of rank among the various sciences in the grades is still an unsettled problem. Beyer's plan is to seek in the field of natural science those classes of material that from the standpoint of interest and thought-content lie closest to the child's native instincts and interests, and at the same time conform to the changing scenes of the historical movement. His work (*Die Naturwissenschaften in der Erziehungsschule*) is most carefully thought out and deserves the close and careful analysis of all those interested in the problem of the place of natural sciences in the common schools. It is striking that Dr. Beyer has hit upon a principle of succession co-ordinate with the historical movement, that has long been accepted by the political economist

and which is based chiefly on man's successively developed relations to natural forces and resources, as the external phase of his cultural growth.

These are the phases of human progress with which a more and more complete knowledge of nature's laws and resources and their more and more perfect utilization have stamped the history of mankind and the development of human institutions. How do they compare with the spiritual side of the movement? In reality the two coincide. We find the hunter epoch represented in Robinson Crusoe; the nomadic epoch in the history of the patriarchs; the agricultural epoch in the history of the kings and judges; the epoch of the first great division of labor, etc., in the German middle age, and that of metropolitan life and wholesale commerce and industry in the time following the latter down to the present.

This parallelism, applied to the curriculum, suggests not only a motive for the approach to the study of nature, but also the general character of the material in the various grades, making in the common schools purely physical sciences in the main follow the biological, a principle generally conceded. The greatest value in the principle of Beyer lies in the fact that each stage is suggestive of the essential relation nature and her laws and resources

bear to human growth. The hunter epoch suggests the contact with nature which at the outstart the child himself requires for the sake of sharper and more perfect sense perceptions; the nomadic, the ideas of the care, protection and use of animals as a motive for better understanding them; the agricultural epoch, the school garden as the practical application of plant knowledge; and, finally, the epochs of the industrial and trade development, the school workshop and the school laboratory, wherein physical laws are concretely demonstrated and applied. As a careful perusal of his work shows, Beyer by no means intends so to apply these stages that each grade would be restricted to but one sort of material, but rather to bring the realistic branches naturally into sympathetic touch with the humanistic movement. We may fairly concede to Beyer the application of a principle of co-ordination of natural sciences with the humanistic movement, that neither requires superficial points of contact for concentration, nor violates the law of development in the subject, but does maintain the only essential relation that the natural sciences bear to practical man, viz., their bearing upon the social and institutional development of mankind."¹

¹ C. O. Van Liew in First Year Book of National Herbart Society, p. 96.

THE INDUCTIVE METHOD IN GRAMMAR.

GEORGE W. NEET, PROFESSOR PEDAGOGY, N. I. NORMAL, VALPARAISO, IND.

The inductive method, also called the "laboratory, or scientific" method, is a procedure in which the pupil is led to observe, investigate, and think for himself. It is opposed to having the pupil take things on mere authority in all cases where he can investigate and do original

thinking. It is diametrically opposed to what is called the text-book method in teaching. By the inductive method the pupil deals with the actual material of study rather than with what some one has said about it. In studying botany by the inductive method, the pupil deals with

plants; in studying zoology, with animals; in studying chemistry, with chemicals; in studying grammar, with sentences and parts of sentences.

As the inductive method, it gets its name from the mental process of induction, or inductive reasoning. This is the mind's process of going from the examination of particular objects to some truth or truths common to all the objects of the class. It begins by studying particulars, and ends by reaching a judgment whose subject is an idea of a class and whose predicate is an idea of some truth asserted of the class.

By way of illustration, five nouns have been examined, and each has been found to be a substantive word which names its object, and the mind reasons this way:

These things are all nouns.

These things are all substantive words which name their objects.

Therefore, nouns are substantive words which name their objects.

It is clear here that the mind starts by studying particular nouns, and from this study reaches a truth about the class, nouns. This truth is, that they are all substantive words which name their objects.

In all definition as a mental process, the mind employs the inductive method. That is to say, inductive reasoning is the mind's natural method of definition. For instance, the mind starts out to define the sentence, and studies sentences, one, two, three, four, five, and six, seeing that each of them is a language unit which symbolizes a thought. It then thinks the definition—A sentence is a language unit which symbolizes a thought. But a study of this process will show that there are here to be found six processes of inductive reasoning. When the mind examines the first sentence it reasons thus: This is a

sentence; this is a language unit which symbolizes a thought; therefore, the sentence (so far as seen) is a language unit which symbolizes a thought. This process is repeated with each particular, the mind becoming firmer in its belief all the time that it was right at first. These processes are each inductive reasoning predominantly, though deduction is implied.

It is evident that the mind's natural way of getting definitions is by the inductive method when it is at all possible to get the particular things to study. We may systematize this by saying the mind's natural way of getting definitions is by:

1. Studying particulars of the class to be defined.

2. Selecting out the common truths of these particulars.

3. Synthesizing these common truths in the form of a thought.

The one and only legitimate objection which can be urged against leading children to form their own definitions in this way from the study of particular cases is, that in some subjects the particulars can not be had for study. But this can not be urged in the study of grammar, for the particulars to be studied are sentences and parts of sentences. The material is omnipresent.

If the mind's natural way of getting definitions is a guide as to the method of teaching definitions, all definitions in grammar must be taught by the inductive method. That is to say, particular cases of the thing to be studied are placed before the pupil, and he is led by questions to discover for himself the truths common to the particular cases, and is asked to state them as essential ideas. And as the last step in the process he is asked to synthesize these common truths in the form of a thought; that is, he is asked to define.

For instance, suppose the definitions of

the noun and pronoun are to be taught, the children having previously learned the classes of words on the basis of what they express and thus understanding the substantive word. They have also learned what it means to name any thing. The following is the procedure:

1. That *rose* is very beautiful.
2. The *oriole* builds a hanging *nest*.
3. One should cultivate a *love* for beauty.
4. *John* is an industrious *boy*.
5. *William* was rewarded for his *industry*.
6. *He* is known to be honest.
7. *I* gave *it* to *him*.

What do the italicized words in the above sentences express? On the basis of what they express what kind of words are they? How do those in the first five sentences differ from those in six and seven. What part of speech are those in the first five sentences; those in six and seven? How does the noun differ from the pronoun? Give the essential ideas of the noun; also, of the pronoun. Define the noun; also, the pronoun.

These sentences, and questions and directions having been given a sufficient time beforehand for the students to study well, they are led to work out the following answers in the recitation:

The italicized words express ideas of objects.

They are substantive words.

Those in the first five name their objects; while those in six and seven do not.

Those in the first five are nouns; those in six and seven are pronouns.

The noun names its object while the pronoun does not.

The essential ideas of the noun are, (1) the noun is a substantive word; (2) it names its object.

The essential ideas of the pronoun are,

- (1) the pronoun is a substantive word; (2) it does not name its object.

The noun is a substantive word which names its object.

The pronoun is a substantive word which does not name its object.

Definition is usually taught in grammar by assigning as a lesson formal statements of definitions to be learned from a text-book and committed to memory. This way consists simply in memorizing what some one has worked out in the subject. It makes the learner dependent and helpless, and gives him an undue respect for the text-book. He comes to think that the subject is found between the lids of the book. He gets an attitude of mind which causes him to accept it because the book says so. This way of learning definitions lacks inherent interest, is unnatural, and is often nothing more than the verbal memory of meaningless terms. It is always liable to this abuse, and, in fact, it can scarcely be avoided. It cultivates memory, but it is the kind of memory which breaks down the ability to think logically. It produces the appearance of understanding without the reality.

Mr. Herbert Spencer says on this point: "To give the net product of inquiry, without the inquiry that leads to it, is found to be both enervating and inefficient. General truths to be of due and permanent use, must be earned. 'Easy come, easy go,' is a saying as applicable to knowledge as to wealth. While rules (definitions), lying isolated in the mind—not joined to its other contents as outgrowths from them—are continually forgotten, the principles which those rules express piecemeal, become, when once reached by the understanding, enduring possessions. While the rule-taught youth is at sea when beyond his rules, the youth instructed in principles solves a new case as readily as

an old one. Between a mind of rules and a mind of principles, there exists a difference such as that between a confused heap of materials, and the same material organized into a complete whole, with all its parts bound together."

The advantages of the inductive method in grammar are many, among which are the following: (1) It is the natural way of learning grammar. (2) It makes students independent and self-helpful. (3)

It gives students the habit of free inquiry and free investigation. (4) It establishes a critical attitude of mind. (5) It makes grammar a subject full of direct interest. (6) It makes grammar a subject not excelled by any in giving excellent mental discipline in accurate observation, comparison and contrast, abstraction, generalization, reasoning, and the kind of memory which does not break down the ability to think accurately.

SPAIN AND THE AMERICAN REVOLUTION.

SUPERINTENDENT IRWIN F. MATHER, EAST CHICAGO, IND.

The recent war with Spain has brought about a revival of interest in the history of that people, so far as it touches our own. Only a comparative few are aware that Spain played a considerable part in our American Revolution and at the close of the struggle secured the peninsula of Florida which she had owned until the close of the French and Indian War. Her alliance with France in this struggle, known in Europe as the Seven Years' War, was unfortunate. The result was disastrous to both nations, and the haughty George III. compelled Spain to cede Florida to England. France, to compensate her ally for her loss, granted her, by the secret treaty of Fontainebleau, November 3, 1762, New Orleans and all the French territory west of the Mississippi River. Spain promptly took possession of the region and, after a stormy beginning, established her rule in Louisiana with New Orleans as the seat of government.

Thus it came about at the opening of the War of the Revolution, that the entire Mississippi Valley was owned by England and Spain.

In 1777 Unzaga, the Spanish Governor of this vast region, was succeeded by Don

Bernardo de Galvez. Of all the governors sent by Spain to the new world Galvez was the most popular and probably the most capable. Appointed governor at the early age of 22 he was promoted to the position of Captain-General of Cuba in 1783, and two years thereafter was appointed Viceroy of Mexico. His death in 1786 cut short a brilliant and glorious career free from the stain of oppression and cruelty which so often marked the rule of Spanish governors.

Charles III., King of Spain, watched the rising tide of discontent in the American colonies with satisfaction. But he was perplexed as to which side he should take in the coming struggle. If he allied himself to rich and powerful England he might be able to secure Florida as a reward for his services, but he was not especially anxious to increase the power of England in the new world.

If he aided the colonies to a successful issue, he was confident that he would obtain Florida and, should the colonies be exhausted at the close of the struggle, he might be able to possess himself of the entire valley as far northward as the Ohio River. Uncertain as to the side with

which he should cast in his lot, the wily Charles waited and plotted. In this diplomatic game he was aided by his prime ministers Grimaldi and his successor, Florida Blanca. Under the guidance of these astute politicians, he sought an alliance first with England and then with America. England refused to make him any promise regarding the disposition of Florida. The king's agents then offered the aid of Spain to the colonies if in return America would assist in recovering Gibraltar, which England had taken in 1704. The colonies declined to bind themselves to such a course, and Spain waited in vain.

At length, when the surrender of Burgoyne's army had insured the success of the colonists, and Louis XVI. had extended French aid and co-operation, Spain declared war upon England in May, 1779. This tardy support was given barely two years before the surrender of Lord Cornwallis at Yorktown.

But Charles' subjects in America had not so long withheld their offers of assistance. The Spanish at New Orleans and St. Louis were anxious to take part in the struggle, and, from the beginning, had secretly aided their American neighbors. It is doubtful if the campaign of Colonel George Rogers Clark would have been brought to a successful issue but for the magic of Spanish gold. When Colonel Clark was in great straits, and knew not which way to turn, Francois Vigo, a St. Louis merchant, loaned him \$12,000 in gold, and accepted from him drafts for the amount upon an American patriot, in New Orleans, named Oliver Pollock. Pollock was a Pennsylvanian who had large business interests in Louisiana, and enjoyed the confidence of the governor and other prominent Spaniards in New Orleans. On more than one occasion, at the

request of Pollock, the Spanish treasure chest was opened and Spanish gold flowed northward to relieve want and distress in the colonial army.

When news of the Spanish declaration of war reached New Orleans it was received with enthusiasm by citizen and soldier. Galvez prepared to march upon the British posts in the Mississippi Valley. At the head of 1,400 men he attacked Fort Bute, 115 miles north of New Orleans, and captured it with all its men and stores. Two weeks thereafter, on September 21, 1779, he captured the British stationed at Natchez.

These important posts having been taken, Galvez turned his attention to the British forts on the Gulf. Reinforced by an army from Havana, in the spring of 1780, he drove the British out of Mobile, and the following year captured Pensacola. In a brief space of time this brilliant commander had driven the English out of the lower valley and taken Florida.

In the upper Mississippi Valley the Spaniards had a garrison at St. Louis, but the commander was lacking in the brilliant and soldierly qualities of Galvez. St. Louis, at this time, was a French village of 125 houses, surrounded by a strong stockade. It was the center of Spanish influence and power in upper Louisiana.

Sinclair, the British commander in the north, ignorant of Galvez's victories, resolved to march upon St. Louis, capture the town and, in conjunction with the British in the south, attack New Orleans. At the head of a considerable force of British and Indians, he advanced upon St. Louis. But his Indians killed a few of the settlers upon the outskirts, and thus the alarm was given to the inhabitants, who placed the village in a condition to withstand a siege.

Colonel Clark, whose Illinois scouts had

kept informed of the movements of Sinclair, advanced to Cahokia, opposite St. Louis, on the east bank of the Mississippi. Here he waited, in readiness to assist the garrison, should aid be needed. But when the Indians learned that their approach had been discovered, being in dread of the rifles of Clark's rangers, they retreated to Mackinac and the British were forced to retire.

This failure of the British encouraged the Spaniards to emulate the example of their brethren in the South, but no Galvez was present to lead therein, and their attempts amounted to little more than raids.

With the opening of the year 1781, Captain Pierro led a force of soldiers and Indians across the "Illinois country" and attacked a British force at St. Joseph, near the present city of Niles, Michigan. The place was captured and with it a number of soldiers and military stores. The soldiers returned to St. Louis well pleased with their work, but accomplished nothing more of any consequence.

These movements of Spain in upper Louisiana were made the basis of demands

for concessions of land north of the Ohio River, but the claim was never seriously considered by the peace conference of 1783. Blood is thicker than water, and, as the territory had to be given up, the British commissioners preferred to recognize the claims of the colonies based upon the conquest by Colonel George Rogers Clark.

To Spain was given Florida and a strip of country extending westward to the Mississippi River. Our country was thus bounded by Spanish territory on the west and on the south. Had Galvez remained in command at New Orleans probably all would have gone well, but under his successors there was constant friction between the two governments. The hostility of the southern Indian was traced to Spanish sources. The closing of the navigation of the Mississippi to American vessels threatened the peace of Spain and the infant nation. But trouble was averted by the retrocession of Louisiana to France, by the secret treaty of St. Ildefonso, October 1, 1800.

SCHOOL HYGIENE.

W. H. FOREMAN, SUPERINTENDENT PETERSBURG SCHOOLS.

SOME SCHOOL CONDITIONS WHICH AFFECT THE CHILD'S PHYSICAL NATURE.

This includes the ordinary precautions in the organization and conduction of the school which aid in maintaining the child's normal healthy bodily condition, and in correcting in so far as possible his abnormal conditions, and which lessen the opportunities for the contraction of disease and the spread of epidemics. The conditions of school life should aid in gaining and maintaining health and not in destroying it; in building up sound bodies and constitutions and not in break-

ing them down. Of what use is all the knowledge gained in the school if there is no health to enjoy it or strength to use it in the battle of life? The individuals in the system are worth more than the system. Unity, system, organization, are essential, yet they should always be consonant to the best bodily conditions of the child. To secure health and physical vitality is economy, both commercially and intellectually, neither do disease and death add to man's happiness.

Location of Schoolhouse.—The schoolhouse should be located on high and dry land, with good drainage and with no wet or boggy land surrounding. Care should be taken to exclude dampness from beneath. Damp soil and air often bear malaria and other contagions, and often lead to colds, catarrhs, sore throats, and pulmonary troubles, which, in addition to being contagious, render the children more susceptible to other diseases.

Ventilation.—Pure, fresh air at the proper temperature is essential to the best mental effort and for the preservation of health. Impure air produces sluggishness, dullness, inactivity and a greater susceptibility to disease, besides it holds organic impurities which often carry the germs of disease.

The air is composed normally by volume of about 80 per cent. of nitrogen, 20 per cent. of oxygen, and 4-100 per cent. of carbon dioxide, besides small quantities of water and organic matter such as dust and nonpathogenic germs, and other gases in minute and varying proportions. Impure air contains a less per cent. of oxygen and a greater per cent. of carbon dioxide, water vapor and organic matter, and is often impregnated with the germs of disease. It is generally accepted among sanitarians that 8-100 per cent. of carbon dioxide in the air indicates the greatest amount of organic impurities from respiration and combustion consistent with the preservation of health.

Air which is ordinarily breathed contains about 16 per cent. of oxygen and 4 per cent. of carbon dioxide, while the amount of nitrogen remains unchanged. Thus, in breathing, the air gains about as much carbon dioxide as it loses oxygen. In quiet breathing about 30 cu. in. of air are inhaled and exhaled at each respiration. The number of respirations per

minute average 18, making 540 cu. in. of air inspired and expired per minute, or 32,400 cu. in. per hour. Children average more than eighteen respirations per minute, but their air capacity is not so great, thus making the product about the same as in adults (adults slightly greater).

Pure air contains about 4-100 per cent. of carbon dioxide, or 4 parts in 10,000; 8-100 per cent., or 8 parts in 10,000, is the highest per cent. of carbon dioxide consistent with health, thus requiring only 4-100 per cent. of carbon dioxide, or 4 parts in 10,000 to vitiate the air. Exhaled air contains about 4 per cent. of carbon dioxide, or 400 parts in 10,000, thus requiring that 100 times as much fresh air be supplied as is used in breathing in order to dilute the air to 8-100 per cent. of carbon dioxide. If 32,400 cu. in. of air be breathed every hour, 100 times 32,400 cu. in., or about 2,000 cu. ft. of fresh air must be supplied per hour, although the 2,000 cu. ft. of air contains enough oxygen to last for two weeks.

Since the air of a room can be changed only four or five times an hour without perceptible drafts, not less than 400 cu. ft. of space should be allowed for each occupant; thus a room 28x36x14 would accommodate about 35 pupils.

Ventilation consists in continually replacing the impure air of a room with fresh air. This should be done without drafts or allowing cold air from without to strike the occupants, and at the same time furnish sufficient fresh air. This is done either naturally or artificially. Natural ventilation is the result of the physical principle that warm air is lighter than cold air, and that gases gradually diffuse. Many devices have been used to secure an even distribution of the incoming fresh air. If only a few persons are in a room, cracks in the windows and doors will be

sufficient. On cold days, good ventilation can be secured by small openings, as the cold air will penetrate through every crack and crevice; on warm days large openings are necessary to effect the change.

Schoolrooms, however, are usually so crowded as to require special ventilation. The simplest is to lower the upper window sash, warm air will pass out above the upper sash, while the cooler fresh air will enter between the sashes, and will be given an upward direction toward the warmer air of the ceiling, where it will become warmed and gradually diffuse throughout the room. The hinged windows in churches accomplish the same result, the warm air passing out above and the cold air entering below the window when turned. A better plan, where the room is heated by a common stove, is to allow the cooler fresh air to enter near the stove through a fresh air pipe, and to exit at the tops of windows, or better, through a register in the chimney.

Hot air registers both heat and ventilate a room if care be taken to admit plenty of fresh air to the pipes. The heated air should enter the room above the breathing point, and exit through registers near the floor.

The vitiated air of a room can usually be detected by the pungent odor of the carbon dioxide, or the repulsive odor of the organic exhalations. The old idea that carbon dioxide is poisonous is not now held. Its danger lies in its exclusion of oxygen. The presence of carbon dioxide can be tested chemically with lime water, $\text{Ca}(\text{OH})_2$. Take quick lime, CaO , and slake with warm water; decant and filter; place the clear filtrate in a convenient vessel, and with a small bellows force the lower air of the room into it. If excess of carbon dioxide be present, a

milky white, insoluble precipitate of calcium carbonate, CaCO_3 , will be formed. It is difficult to get this precipitate if the air does not contain more than the normal 4-100 per cent. of carbon dioxide.

Heating. — The most unsatisfactory way of heating a schoolroom is with an ordinary unprotected stove, permitting the fresh air to enter and exit at windows and doors. Those seated near the stove become too warm, perhaps sweaty, while those seated away from the stove and by the windows become too cold, perhaps chilly; both are uncomfortable, and this materially interferes with their studying to the best advantage. To the extent that the children are made uncomfortable and their powers of study impaired, to that extent is school money wasted. In addition to the financial loss and the loss of mental energy, the children contract colds which leave conditions suitable for catarrhs, throat and bronchial troubles, while their general physical vigor is reduced, leaving them more susceptible to disease.

A better method would be to surround the stove with a sheet iron or zinc jacket, extending from the floor toward the ceiling, and to bring in between this and the stove a supply of fresh air from without through a fresh air pipe running underneath the floor. This air becomes heated and, passing out over the top of the jacket, gives a plentiful supply of convected heat, together with good ventilation, the impure air being permitted to exit through a register in the heated flue. This method is practical, economical, and furnishes proper equalized heat and good ventilation.

The recently invented "ventilating stove" is constructed on the above principle, except that it has two jackets. The inner jacket extends from the floor to

ward the ceiling, the outer is sealed at the top to the inner, but does not reach to the floor. The fresh air is introduced next the stove within the inner jacket through a fresh air pipe. This air becomes heated and, passing out over the top of the jacket, gives a plentiful supply of convected heat, together with plenty of fresh air. The heat of the stove causes a natural draft towards the stove, thus conducting the impure air of the room up between the inner and outer jackets, passing out through a pipe leading from the sealed top between the jackets to the flue. This plan furnishes a proper equalized amount of heat, together with perfect ventilation, and is practical and economical, the apparatus costing only twenty-five dollars.

It is best to keep water on the stove in order to raise the relative humidity of the air, as air too dry produces rapid evaporation from the surface of the body and tissues, causing the skin and mucous surfaces to become chilled, and leaving the tissues hard and dry. This condition may produce colds, catarrhs, etc., even with proper heating and ventilation.

Where a large space is or a number of rooms are to be heated, the hot-air furnace is better and more economical. When this system is properly constructed it furnishes a proper equalized amount of heat and plenty of fresh air. Care should be taken that the air received from without is pure, that the warmed fresh air is introduced above the breathing point, that the exit registers are so arranged that the impure air may exit on the same side of the room and below the place of entrance of the warmed fresh air, and that the air have the proper relative humidity, steam-heated air being best.

Lighting.—Gradual yearly increase of eye affectations, together with nervous-

ness, indigestion, loss of mental energy and like ills produced by reflex action from eye strain and eye conditions, makes the subject of schoolroom lighting of vital importance to the teacher. The window area should be sufficient to admit plenty of light even on dark days, and it has been found that it should be not less than one-fifth of the floor space, otherwise the light will be deficient. The windows should extend from about the height of the pupil's shoulders (when seated) to almost the ceiling, and should have square tops in order to admit as much light as possible. The school building should not be situated in close proximity to other buildings or be surrounded by trees for the same reason.

It has been found that cross lights produce eye strain, and since most pupils are right-handed, the light should be admitted from the left side of the pupils, if necessary from the back. This will permit the light to fall directly upon the pupil's paper when writing, and will secure perfect vision. When the light is admitted from the right or even from the back, the shadow cast by the pen in writing interferes with vision, especially on dark days, and causes the pupil to lean forwards in order to obtain clear vision, thus bringing his eyes too close to the paper, and is very likely to develop into myopia. The light should not be admitted in front of the pupils, as the continuous light and glare is very trying and injurious to the eyes.

Each window should be provided with two curtains hung in the center, one to go up and one to go down, in order to shut out the direct rays of the sun, to regulate the amount and proper distribution of the light, and to avoid the pernicious effects of cross lights. It is better that light be admitted from the top than from the bottom of the windows.

Objects which have polished or glossy surfaces reflect the light rather than diffuse it. Highly reflected light is glaring and blinding while diffused light illumines objects in the vicinity and renders them visible. Blackboards should therefore have a dead black surface, not glossy or polished, and should be on the sides of the room in which there are no windows, while the walls should be of a neutral tint or slightly blue or green, and ceilings should be white but not glossy. The plastering left in the rough and well white-washed is better (for light) than the fine glossy white coat or paint finish.

Where it is necessary to have a large amount of blackboard space, it is well to be provided with light blinds to pull down over the boards on dark days in order to better diffuse the light. It has recently been developed that a black mark on a white background can be better seen than a white mark on a black background. If this be true, it is probable that the blackboards may be displaced by "whiteboards" which will be more consistent with the proper lighting of the schoolroom.

(To be continued.)

SCHOOL MANAGEMENT.

SUPERINTENDENT J. H. TOMLIN.

QUALIFICATIONS OF THE TEACHER.

The natural qualifications of the teacher are as follows:

- a. Good common sense.
- b. Cheerfulness.
- c. Firmness.
- d. Sociability.
- e. Love and sympathy for the work and the children.
- g. Power of comparison.
- h. Aptness to teach.
- i. Patience.
- j. Industry.
- k. Will power.

These points are so self-evident that they will require but little comment.

Good common sense, which is only a phrase for good judgment, is always at a premium. Certainly no one has more use for it than the teacher. It is the peculiar province of common sense to solve new and unforeseen problems. Book sense, rules and theory are all good enough in their way, but often they do not meet the

trouble. Many contingencies and difficult questions arise in the schoolroom which must be met and settled at once. They are governed by no rules or precedent. Sancho Panza virtue alone must cope with such difficulties. Common sense may and often does come to the rescue when all other expedients fail. This rather rare quality of mind is partly the gift of nature, and it comes partly through liberal experience with the world and thoughtful application and observation. Experience is a costly teacher, but a very valuable one. To have come into contact with the workshop, the fields, the city, the school, the church, the business world, is the most vital part of the teacher's equipment for his work. To have come into touch with the institutional life of the people is in itself a literal preparation for the school work.

There is something in the business of teaching that has a tendency to sour the disposition. It may be irritation of the

nerves. It may be indigestion. At any rate, old teachers often become morose and cross. The genial mood of earlier life often disappears. Sympathy and charity fail, and the teacher becomes rigid and exacting. To be agreeable and sweet tempered, to keep in touch with child life as age comes on, must be the outgrowth of much thoughtfulness and care, and the result of correct mental and bodily habits.

The teacher ought to be gently firm and steady in his work and management. This course of action gives the teacher character and gains him the respect of his pupils. An undecided teacher is never sure of his ground. A wreck is probable at any moment. Only the firm hand and the steadfast purpose can be sure of safe landing. There can be no danger in such a course. It is safe from whatever standpoint it may be considered. When guided by right and discretion firmness will not be abused.

It pleased nature to create man a social being. This element of his nature demands that he live in society. He must therefore adapt himself to his surroundings and his conditions. It is said that the man who desires to live alone is either much better or much worse than mankind in general. The child appreciates very highly both friendship and sociability. His nature demands these things and they should not be denied him. Well developed social qualities of the teacher will do much toward establishing him with his patrons and pupils, and will give him great advantages in securing his desired ends and carrying out his plans. Let every teacher cultivate the social phase of school life.

Love and sympathy are the most powerful of all the social motives that operate in the schoolroom. The teacher should have the "head of a man with the heart

of a child." Work must be congenial if it be done well. No one can enter heartily into a task that is repulsive. A living interest and belief in the child seem necessary to those who have charge of his education. The teacher who would do his pupils the most good must be in hearty sympathy with them and find pleasure in his work. Sympathy is thought to be the teacher's greatest need. It is beyond doubt that the incentives of love and sympathy succeed when almost all other motives and expedients fail. "After the great battle of Chickamauga was fought, an eighteen-year-old boy lay in the hospital with both eyes shot out. For days he tossed about his couch in fever and delirium without any apparent chances of recovery. At length, his mother, hearing of her son's misfortune, called at the hospital and asked to see him. She was refused admittance, as only trained nurses were permitted to administer to the sick. A second time she called and was refused. A third time she was refused; but, plead the mother, "I love my boy, and perhaps I can do him good." At length she was admitted on the promise that she might see her son but under no circumstances was she to speak to him. Reaching the bedside of her son, she stroked his hair and bathed his fevered brow. Presently the light of reason returned, and he exclaimed, 'My God! that was my mother's touch;' and from that time his recovery was rapid."

Power of comparison and aptness to teach, do much to facilitate the process of teaching. Growth in knowledge consists largely in the seeing of likenesses and differences, in seeing unity in the midst of diversity, in discerning important relations. That is to say, that learning is accomplished by means of comparison. This process is at work in all educative opera-

tions. Consciously employed, it makes instruction pointed and clear. Some special aptitude for the work, natural fitness and adaptation play an important part in the success of any teacher.

All growths except those of the mushroom and hot-bed are slow. All substantial growths require time. This is equally true of mental growth and developments. The processes of learning must have time. Quick results can not be expected. The nurturing and developing of the child mind must be accomplished by patient, diligent labor. Perseverance, industry,

patience are substantial factors in the final results of the school.

The management, government and even the instruction of the school require the constant exercise of the will. The carrying out of plans, pushing the work, the determination to succeed, mean almost everything in a well organized school. The will is a sort of motive power, a guiding influence, a determining element. It clears the way and makes the conditions. Good order, good work, good conditions bow to its mandates. It is the teacher's greatest prerogative.

THE READING LESSON AND LITERARY CULTURE.

CLARENCE M. CASE, NOBLESVILLE, IND.

The way to learn to read with true appreciation is to read intelligently and often. Literary taste is a thing of intuition and not a matter of rules; a sensitiveness to the forms and content of literary art. Like all esthetic feeling it must largely come by absorption through long familiarity with art creations. In order to appreciate good literature in a soulful way one needs to be immersed and thoroughly soaked in such environment as early as possible.

Too much time is sometimes wasted in talking about the beauty in literature or making tedious dissections and expositions while the children are impatient to be reading it. The treasures of the new reader are now being devoured by hungry minds too eager to await the slow doling out of the regular lessons. The so-called "bad" boy is often the very one who spends most time in thus covertly regaling himself. This shows how naturally children reject formal interpretation and simply desire to live between the lids of their readers. By this expression is

meant their aptness for entering into and living over the scenes and experiences presented; not with conscious effort to interpret or even appreciate, but in the same spirit of abandon that blesses every one of their elders when reading solely for his own pleasure and profit.

Such interpretation as is attempted should be brief and as far as possible interrogatory. It should be regarded by the pupil as simply so much help toward entering more fully and vitally into the scenes and experiences portrayed. Reference is here made to the thought side or content of literature. In viewing the selection upon its art side as an objective creation used as an instrument of expression, many concrete things of beauty appear. Among these are the values of words and expressions with regard to music, as in Tennyson's "Song of the Brook," Poe's "Bells," and Lanier's "Song of the Chattahoochee;" action, as seen in "The Destruction of Sennacherib" and "Young Lochinvar," and the color tones of "Drifting." Such exercises are attrac-

tive as lending the zest of discovery, and valuable because they give sensuous pleasure—which is a primary mission of all art—and lead to appreciation of literary elements and forms as means of most vivid expression. Yet even these things are in large measure rather to be felt than mined after. Elucidation and not expansion is the teacher's task, and his best means are questioning and suggestion. Let him remember that in presenting a piece of literature he is "not that light," neither are his interpretations, "but sent to bear witness of that light." Hide not the author's light under a bushel of comment and analysis. Let the pupils come to the light itself.

Children entering the upper grades have been made, to a considerable degree, familiar with the mechanics of reading, both written and oral, and are ready for constant application. Twenty pieces exhaustively talked about and threshed can hardly become a force in soul growth equal to forty read with reasonable care and several times re-read. Many of the pieces in the school readers may be most effectively read in less than a half hour. They may then well be left and read again a few weeks later.

The Herbartian theory concerning the value of large and complete thought-wholes is especially applicable to reading. Each selection is, or should be, a literary unit—that is, a unit formed and finished in the elusive and indescribable heat of literary execution. Two things tend to destroy this wholeness and wholesomeness of the selection. They are lengthy, or simply frequent, intervals of explanation and comment; and the breaking up of certain pieces into separate lessons. As a general rule it may be said that a selection—especially a poem, or prose distinguished by the peculiar organic charm of pure lit-

erature—should be read through at one reading. If difficult it may be re-read and brief explanations made by teacher and pupils, yet the force of the whole piece should impress the mind each time. Such comment as may be deemed helpful is perhaps better if largely left till the conclusion of the reading.

In the higher grades at least it may be questioned if a piece of literature can be found too subtle on the art side, provided pupils can handle the words and constructions. A fine literary gem is an elevating companion in somewhat the same way as is a noble man. The child may not adequately appreciate either, consciously, but he can no more remain entirely unresponsive to such beneficent influence than the flower to the warm sun, although the response may be entirely involuntary and instinctive. The works of the masters of literature, as of all art, are like the hills that environ us. They are mighty, though silent and often unrecognized, forces in determining character and mental tone. Neither must they be laboriously analyzed or even understood in order to be helpful companions. Therefore children should constantly read the best of literature.

Many of us are what we are, and everything we experience or observe bears a certain peculiar coloring all because the family library in childhood held certain books; and it might be interesting to compare the local color in the mind early fed on juvenile books with that of the one that enjoyed the more mature companionship of Bayard Taylor. The colonial period of American history has always possessed an indescribable charm because each new fact must be baptized in the romantic glow of a sketch in Barnes' History, on "Rural Life in New England a Hundred Years Ago," surreptitiously stored away in memory while the teacher laboriously dis-

cussed some topic clothed in less attractive literary form.

A gentleman informed the writer that he read time and again a certain passage from one of Webster's speeches, wondering always what a certain expression meant, yet with heart stirred, no doubt by the martial rhythm of the great orator's fervent rhetoric. The meaning became clear in later life, but no new revelation can ever lessen the worth of that early childish appreciation.

It is not required that the child understand all that he reads, but he should feel the magic touch of the author as he "senses" the entire selection in his own

way. Therefore the reader should contain a wealth of entire compositions, or such extracts as present artistic unity in themselves. Where the reader is scant and suitable supplementary work unobtainable, let the piece be read and re-read at intervals, each time more understandingly. Let it be approached in different moods and ways; its people regarded as old and dear friends, and treated so; its events treasured almost as personal experiences; and the reading of it made in the end an unconscious effort to express that portion of the reader's inmost life around which its scenes lie crystallized.

.... THE SCHOOL ROOM

STORIES OF KING ARTHUR.

CORRELATED WITH THE HISTORY IN THE FIFTH GRADE.

LYDIA R. BLAICH.

To-day we sail in a Saxon keel over the "swan road" to England; and while here, let us listen not to a story of gods, but of men. Every English lad delights in telling stories of King Arthur and his Knights of the Round Table, and all the boys of other lands find no less pleasure in listening to them.

Do you remember how Wulf and his companions helped King Vortigern of England drive out the wild Picts of the North, and how, for pay, they founded a stronghold on British soil, encompassed a rocky hill with a bull's hide strip and built Thong castle on it?

Some time after the Saxons had gotten quite a foothold in England, they heard of Arthur, a prince of Wales, who did not

fully approve of the Saxon inroads and so often met them in battle. He gained twelve victories over the Saxons.

Arthur was so great a hero and so much loved that many beautiful but improbable stories were made in his honor. It is difficult now to vouch for the truth of some of these tales, but the poets sing them as if they all really happened. Wise men say that certainly a noble Welsh prince named Arthur performed with his companions many wonderful deeds in England.

Noble Arthur enjoyed the companionship of great, brave men; therefore, he called to his court the best nobles of the land, who became his Knights of the Round Table. They bound themselves by oath to risk their lives for each other in times of peril, fearlessly to attempt the most dangerous adventures alone, to take up arms against the enemy at the first

call, and never to retire from battle till they had defeated the enemy, unless night overtook them.

You will be interested in hearing how Arthur became king. At the death of his father, the people assembled to choose a successor. They asked Providence for some sign by which they would be able to select the right man. After the service was ended, a wonderful stone, with a sword securely fixed in it, appeared before the church door.



The people offered their thanks to God for the signal and the bishop proposed that he who could pull out the sword should be crowned sovereign. All the knights tried in vain. This took place on Christmas eve, and every day some one or more made the attempt; but Candlemas (February 2d) came and went, and Easter was passed without a success. Finally, one day the best knights of all the kingdom assembled for a grand tournament to display their bravery. Arthur

being sent home to get a sword for his brother, passed the stone and drew out the sword with the greatest ease. To prove that he really did it, the sword was replaced in the stone and in the presence of all the people he again extracted it. Many jealous kings and dukes rebelled against him, but Arthur had a magician friend named Merlin who helped him by enchantments to conquer them all.

Then followed his victorious conflicts with the Saxons. After his last Saxon conquest Arthur gave battle to the Picts and routed them. He restored many of the Christian churches which had been robbed and demolished by the pagan enemies.

He invited famous people of all nations to his court where he introduced such politeness that countries far and near heard of it and attempted to follow his example.

Next, the king made plans to subdue neighboring nations, taking Norway first; and after nine years of warfare he conquered all Gaul, now called France. Wherever Arthur went he performed good deeds. While in Gaul, the people told him about a giant who dwelt in a cave on the neighboring Mt. St. Michael, and who devoured the people of the surrounding country. The king rode with two companion knights to the base of the mountain where he bade them stop while he went to the top. There he found the giant gnawing the bones of a man, while three girls were lying near, to be devoured next. Arthur addressed him, saying, "Why do you these wicked things? This day you shall die by my hand;" whereupon a great struggle ensued, sometimes one being victorious and again the other. By and by they rolled down the hill to the place where the two knights were waiting. With their assistance the giant was killed. When the people

thanked Arthur, he replied, "Give your thanks to God, and divide the giant's treasures among yourselves." Shortly after this, the king built a church on that hill in honor of St. Michael.

Arthur treated his knights with great kindness. To all the poor ones he gave lands, "and charged them all never to do outrage or murder; never to commit treason; also by no means to be cruel, but to give mercy unto him that asked mercy; always to do ladies and gentlewomen service; never to take battle in a wrongful quarrel, for no law, nor for any world's goods."

Many tales are told of how the knights rode about the country, meeting strangers and robbers, with whom they jousting or fought, either to test their own strength and courage or to rid the land of evil-minded persons.

One day as Arthur and his prophet friend, Merlin, were riding along, they came to a pass, where they met a strange knight on horseback, who caused the two to halt, saying, "No knight may ride this way unless he joust with me; such is the custom of the pass." "I will mend that custom," replied the king; whereupon the two ran towards each other with such vigor that they shivered each other's spears. Then they fought valiantly with their swords, striking many hard blows, until the king's sword was broken in two. Finally, Arthur was thrown to the ground under his adversary's foot, who said, "You are now in my power; yield or die." Brave Arthur replied, "Death is welcome when it comes; but I will not yield." Then Arthur would have received the death stroke had not Merlin cast an enchantment over the stranger so that he fell to the earth in a sleep.

The king and Merlin went to a hermit near by who was well versed in the heal-

ing qualities of herbs; and in three days Arthur had recovered from his wounds. They left the doctor and rode on. "I have no sword," said the sovereign. "Do not worry," replied Merlin, "we shall soon find one for you." After a short time, they reached a fair, broad lake from which an arm dressed in white silk extended, holding up a sword. "There is a sword," said the prophet. "It belongs to the Lady of the Lake; and if she will, you may take it; and if not, it is not in your power to take it."

Arthur entered a boat, and when he reached the Lady of the Lake, he took the sword, and the arm disappeared. He was much pleased with the sword. He told his adventures to his knights at home. They marveled at his bravery in thus risking his life; but they all said it was a fine thing to serve a chief who undertook daring deeds as other poor knights did.

PICTURE STUDY.

MRS. E. B. OLCOTT.

"The languid air is laden with the odor of the roses,
The burly bees are busy with the tassels of the corn."

Yes, "June has come with her roses," and vacation has come to most of the readers of the Journal. The routine work has ceased for a time, but in one sense, school never closes. In the sweet sunny weather true teachers, like the bees, are busy gathering and storing supplies for the winter.

One form of honey that may well be gathered at this season is an increased knowledge of pictures, that sort of knowledge which may be used to sweeten the daily fare of both teacher and pupil.

Making the acquaintance of the world's great artists through copies of their masterpieces should be a task so pleasant that it virtually ceases to be a task and becomes a recreation. Picture study then should be counted a vacation privilege. Thrice blessed vacation, bringing time to rest—"to sun me and do nothing"—time to read delightful books, and time to study inspiring pictures.

Let me, at the outset, say frankly that I wish to reach those teachers especially who have given little thought to pictures. So, gentle reader, if you have not a picture in your schoolroom, if you would need less than the fingers of one hand to number the great artists you know, if you can not recall the name of a single famous picture, if you can not remember seeing a copy, however, unpretentious, of such pictures as "The Sistine Madonna," Hoffmann's "Christ and the Doctors," or Millet's "Angelus," then, I pray you, do not turn the leaves of the Journal to some other article, but lend me your eyes, for it is your thought I wish to reach.

Why should anybody study pictures? To more fully enjoy them; to open another avenue through which happiness may be pursued—and overtaken!

"How to Enjoy Pictures" is the attractive title of a book recently issued by Prang Educational Company. Its pages fulfill the promise implied in its name.

From its many practical thoughts, I quote the following: "Through studying reproductions of artists' paintings, we come into touch not merely with the reflected images of real things such as we see in the world about us, but with the thoughts and feelings, the joys, hopes and aspirations of some of the great men who have looked at the world and lived in it. If we can learn to look with their clearer eyes and to see the beauty which de-

lighted their more appreciative souls, our own world becomes larger and lovelier through that experience. * * * What is heartily to be desired is that we shall all learn a larger measure of appreciation. We should study great pictures as we study great books, not for the purpose of being able to pass learned criticisms upon them, but for the purpose of appropriating and enjoying our share of whatever they have to give us. * * *

"The knowledge of great pictures which can be obtained from reproductions of reproductions is necessarily superficial in a certain sense, but it by no means follows that such knowledge is not worth having. In the first place, a work of art which is really great, in any immortal sense, will bear a great deal of dilution at the hands of process reproducers and still have tonic qualities left in it. * * *

"And, in the second place, 'a little learning' is not a dangerous thing unless its possessor mistakes it or tries to pass it off for great learning. * * * One is often reduced to a choice between a slight knowledge and none at all; and, in the case of picture study, where a very little increase of sympathetic undersanding enlarges so much our resources of happy imagination, there can be no question that a little is better than nothing. In fact, the study of pictures probably constitutes for those who really care for it a resource of rest, delight, and inspiration second to none within reach of everyday people. Nature, books, music, all have charms to make us forget weariness and worries. * * * It seems less common for people to appropriate great pictures to themselves. * * * One of America's greatest artists, William Morris Hunt, used to urge his studio pupils to study the best pictures over and over again: * * *

'You must set yourself ahead by studying fine things. * * * I've told you over and over again whose works to draw—Michael Angelo, Raphael, Albert Durer, Hans Holbien. Get hold of something of theirs. Hang it up in your room, trace it, copy it, draw it from memory over and over, until you own it as you own "Casabianca" and "Mary Had a Little Lamb."

"Most of us could not carry out this advice in detail, so far as copying is concerned; still, there is here a hint for us all. Suppose we have pored over the photograph of some masterpiece till we know it literally by heart and can see it complete with our eyes shut, should we not be passing rich? And it can be done. Anybody who cares to do it can gradually accumulate a little picture gallery of this sort all in his own head, quite independent of circumstances of time, and place, and money."

I have quoted this at length to re-enforce my position—that teachers should study pictures, both for the purpose of making their own world "larger and lovelier than that experience," and of fitting themselves to enlarge and beautify the pupils' world.

Where shall you get pictures to study, do you ask? They are being insistently offered to you on every hand. Copley's Prints, the Perry Pictures, Brown's Pictures, and others are offered for from less than a penny apiece upward. Soule's Photograph Co., Boston, will sell unmounted photographs. All are widely advertised and have stood the test of time.

The Educational Publishing Co. issues the great artist series, which sell for ten cents apiece, and each contains half-tone engravings of the masterpieces of a great artist with interesting sketch of his life. Other publishing houses offer similar series, illustrated and inexpensive.

There is good material in abundance, so why not begin at once "to accumulate a little picture gallery" all in your own head!

LETTER SCALES

ERNEST B. KENT, INDIANAPOLIS, IND.

This piece of work, made by the children of the sixth and seventh grades, has proved exceptionally interesting and valuable in a variety of ways. It is a project which all the children consider thoroughly worth making. Constructively it has the advantage of requiring a variety of materials, and it requires a careful adjustment of the parts to each other. Further, the child can hardly make it without working out for himself the law of the lever, nor without getting a good understanding of the various commercial methods of determining weight.

While the following outline presents it as a class exercise to be made in the regular school room from 5-32 inch basswood with knife and tack hammer for tools, it may prove useful to teachers who have not the means of taking it up in that way, as any pupil mechanically inclined would enjoy taking the directions and working them out for himself.

Introduce by showing the model, weighing two or three objects with it, explaining briefly the use of the different parts.

Working Drawing. 1. Side view: Handle, dotted lines, chamfers, beam. 2. End view: Handle, layer of paper, beam. (The drawing should not be as complete as the one above, but should simply tell the facts needed in the whittling and putting together of handle and beam.

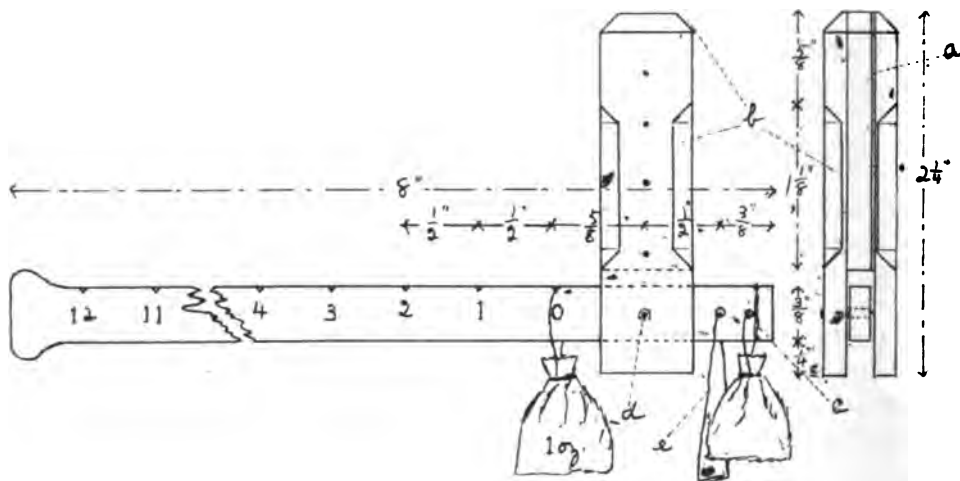
Whittling. 1. Handle: Make two pieces each $\frac{3}{4}$ in. by $2\frac{1}{2}$ in., and one piece $\frac{3}{4}$ in. by $1\frac{3}{4}$ in. Fasten them together with four brads as shown in the draw-

ing, separating them with five thicknesses of paper ("a" in drawing), and taking care that the grain of the different pieces does not slant in opposite directions. Reduce the handle to $\frac{3}{8}$ in. in width by whittling the three pieces as one. Mark the chamfers $\frac{1}{8}$ in. wide ("b" in drawing), gauging them with pencil point resting against thumb-nail. Whittle chamfers carefully, beginning at the ends, which slant forty-five degrees. 2. Beam: Draw oblong $\frac{3}{8}$ in. by 8 in. Draw enlargement at end, as in drawing. Whittle from this end. Make small notches for thread at "c." Wind thread on tightly.

Take rulers. Lay forefinger on desk. Rest middle point of ruler on this finger. (It balances.) Reminds you of which kind of scale? The support is called the fulcrum.

Place a one-inch cube on the ruler with its center just one inch from the fulcrum. Restore balance by means of a second cube. Where did you have to place it? (Try other distances.)

Now place two of the cube-weights with centers one inch from fulcrum. Try to restore balance with one more cube. Where did you place it? If you all had made the experiment with the proper care



Now in order to put these together properly we must make a little study of scale principles. What different kinds of scales do you know of? Three main classes of scales:

1. Spring scales.
2. Balances. (Used at drug store; accurate.)
3. Sliding weight scales. (Used at groceries, etc; more convenient for weighing large quantities. Why?)

To which class do ours belong? We must now find some way of determining the proper length for the spaces on the beam.

your answers would agree. Always be sure that your ruler balances before you put on the weights. Try with three weights and then vary the distances from fulcrum until they begin to grasp the law.

Continue the study with the following bit of apparatus, which a careful pupil can prepare in advance: Take a foot-rule, make small holes at all the inch and half-inch points, suspend at center with a string. (It must balance.) Make sand-bags weighing one, two, three and four ounces, respectively, with pin-hooks to fit the holes in ruler. Place weights on ruler at various distances, letting children re-

store balance with the one-ounce weight. Evolve statement that the distance of second weight from fulcrum must be as many times greater as the weight itself is times smaller.

Now let us see if we can use this knowledge in weighing unknown quantities. (Sketch a scale beam on the board, dividing it into spaces of about two inches each. Indicate the fulcrum at the center.) Suppose we have a package of sugar, weight unknown, and hang it here on the beam, one space from the fulcrum, and we have this sliding weight, weighing just a pound. Can you find out the weight of the sugar? (By balancing sugar with pound weight?) Well, suppose it balanced here at the end of the fourth space, would you then know how heavy it was? Or suppose it balances here in the middle of the sixth space? Suppose I slide my pound weight to the very end of the beam, and the package still lifts it up; what could I do? (Move the package closer to the fulcrum and then balance it with the one-pound weight.) How much does the package weigh this time? These problems may be made as difficult as desired, furnishing an excellent means for oral drill in fractions, and one of the best possible illustrations of the "inverse ratio" for those who may be ready for that.

Take model again. In these scales we are making the fulcrum is where? The package hangs here, one-half inch from it. How heavy is our sliding weight? What amount of weight will each half-inch on the beam represent? Take beam; measure $\frac{3}{4}$ in. from end to point where package is to hang; measure very carefully $\frac{1}{2}$ in. further for point of support. At these two points, $\frac{1}{2}$ in. apart, make two 1-16 in. holes with awl. On one edge of beam make a small notch

$1\frac{1}{2}$ in. from same end. Mark this "O." Beginning from this zero point lay off the rest of the beam into half-inch spaces and notch in the same way. Slip fulcrum nail into its hole. Bend wire letter-holder ("e" in drawing) and insert into its hole. It is made from a piece of No. 16 wire, $6\frac{1}{2}$ in. long.

Bags for Weights.—This sewing lesson should be a pleasant and valuable change. Let the children bring needles, thread and cloth—something colored preferably, and firmly woven. They should be 3 in. deep and $1\frac{1}{4}$ in. wide, inside measurement, if they are to be filled with sand, and about $1\frac{1}{2}$ in. by 1 in. if shot is used. One of the two must be weighed to exactly one ounce at the drug store. Tie up its mouth firmly and hang over beam by means of a loop. Fasten other bag, open, at extreme end of beam. Put in sand or shot until beam just balances with the 1 oz. weight at the zero mark. Then close second bag carefully and the scales are ready for use.

THE PHYSIOLOGY OF DIGESTION. IV. ABSORPTION.

CHARLES D. NASON, PH. D., PROFESSOR OF PEDAGOGY,
TRI-STATE NORMAL COLLEGE.

We have seen the process of digestion to be, generally speaking, the solution of the food. The taking of this dissolved food into the blood is called absorption. Although it is not what is eaten but what is digested that is of consequence to the animal body, and the stomachs of starved rabbits have been found to contain considerable quantities of food; yet one's power of chemical digestion may be never so good but that if proper absorption does not take place starvation is the result.

To facilitate the comprehension of this process an experiment illustrating osmotic action through an animal membrane.

will be useful. Tie a piece of bladder over the large end of a lamp chimney and suspend the chimney, large end down, in a basin of water. Now, partially fill the chimney with a strong brine and carefully mark the height of the salt water on the glass. The apparatus is allowed to stand a few minutes, when it is discovered that the water has risen in the chimney and it is found that the water in the basin is salty to the taste. This shows that there has been an interchange between the contents of the two vessels through the membrane separating them. Crystalline substances have this ability to pass through such a membrane, but non-crystalline substances must first be dissolved before they are enabled to get through animal tissues.

But this is not the whole story of absorption. It is due both to a physical process and to the activity of the living cells which line the digestive tract. It may take place anywhere along the tube, and water and the soluble salts may even be partially taken up in their passage down the oesophagus, while a considerable part of the proteid food substances filters through the walls of the stomach; but absorption is chiefly the function of the intestines and, especially, of the small intestine.

The greater power of infiltration possessed by the intestine is due to its increased area and also to the different structure of its walls. If the small intestine were split open and laid out flat, it would cover a little more than half a square yard, but its area is greatly increased by the deep folds which run transversely around the tube (the valvular conniventes), and by the little hair-like processes, or villi, which are everywhere present. There are between four and five million of these villi covering the folds and giving to the interior of the in-

testine the appearance of velvet. Just as a plaited skirt requires a greater amount of cloth than a plain skirt, so these folds and processes require a larger amount of tissue to cover them, in fact, nearly twelve yards. Over this large area is spread a thin layer of the food to be absorbed.

Let us now glance at the structure of villi, since they are the immediate agents in absorption. For simplicity, let us imagine a glove finger made of very thin kid and within it a white core which is covered over with a net-work of minute veins and arteries. The white center is the termination of a lymphatic and is called a lacteal because it takes up from the chyle the milk-white emulsion of fats, while the water, salts, grape sugar and proteids go directly into the blood-vessels.

Crystalline substances, emulsified fats, and the kind of soap manufactured by the bile and pancreatic juice are easily diffusible through an animal membrane, but non-crystalline substances, outside the body, do not go through a membrane. Accordingly the process of getting the food into the blood is largely due to the selective activity of the living cells of the villi. Moreover, we have seen that cane sugar which easily passes through a dead membrane has first to be changed into grape sugar before it can be taken into the body. Thus the villi choose what they will take and what they will leave behind. That this is an important function goes without saying since the intestine can thus prevent many deleterious substances from entering the lymphatics, whose contents ultimately find their way through the thoracic duct into the heart.

The nutritive matter first forms lymph and then the lymph is transformed into blood. Except in the lacteals, the lymph is a clear fluid containing numerous little

living bodies identical with the white blood-corpuscles and the specks of translucent matter we see in the saliva. It is considerable in amount, nearly six quarts being poured into the blood through the thoracic duct in the course of a day. We are usually not so familiar with the lymph as we are with the blood, but it can be "experienced" if you hang your arm down for a long time until it becomes swollen and heavy. This is partly due to the hindrance of the circulation of the blood in the small capillaries, but much more to the accumulation of lymph in the lymph spaces. It is the lymph, again, which gives the plump, rounded figure to healthy young people, and the effect of its loss is seen in the wrinkled, shrunken hands of old persons. In the disease called dropsy there is an accumulation of a weak lymph in the lymph spaces.

In this series of papers no attempt has been made to give an exhaustive account of digestion, but rather to bring into prominence the interesting details which are not to be found in the elementary text-books. The difficult science of physiology may be greatly enlivened by the abundant use of figurative language, as, for example, in comparing the digestive apparatus to an engine which consumes coal, water and air, and throws off ashes and gases, while it makes a return in heat and power. But as figures of speech are proverbially defective, we have to correct this by explaining that the digestive apparatus of the body has the power of repairing itself; indeed, it is both engine and engineer.

In order to obtain the best results from instruction in physiology, it is well to observe that, before classes of children, it is especially necessary to avoid those experiments which require involved thinking

and complicated apparatus. For this reason, in the experiments on salivary digestion, I have not used Fehling's sugar test, which is much more complicated, but, on the other hand, more striking in its results. Moreover, Fehling's test is more expensive than the one I have adopted, although it is not to be dispensed with in accurate laboratory work. A piece of apparatus set up from bottles, chimneys and basins found around the house is to be preferred to the more elegant and compact apparatus furnished by the makers, not because of its greater cheapness, but because the mind of the pupil is not distracted from the physiological question by unfamiliar and complicated machinery.

A final word of caution: The function of experiment in the elementary grades is not to discover facts but, rather, as concrete illustrations, it is to impress and vivify facts. For this reason many experiments are not necessary, even if it were possible to make them. Then, again, with a large amount of experimentation, there is a danger that the pupils will undervalue what can not readily be shown to them, and with the teacher, also, a great deal has to be taken on faith, as, for example, the functions of the thymus, the thyroid, and the spleen. A great deal concerning the process of digestion is still comparatively unknown and we can only make the general drift of the process plain to ourselves and to the pupils.

THE USE OF SOLITUDE.

We acquire most rapidly in society; we ripen best in solitude. We receive new ideas, devise new plans, welcome new impulses, most readily when under the in-

these and render them effective in our lives in the quiet meditation of the still quiet hour. For one thing we must learn to depend more on internal conditions than on external for our helpful pleasure. So many persons are almost wholly dependent upon outward excitements and amusements for their pleasure. With some there must be a perpetual round of gaiety. Life is a constant study of expedients by which they hope to enjoy themselves. They live upon stimulants. The result upon the mind is analogous that which follows the use of stimulants upon the body. Take away the stimulus of perpetual excitement, or let the mind grow unsusceptible to its charm and the reaction inevitably comes. In such a case these persons become most helplessly miserable. They have lived a life of intellectual intoxication, and they suffer all the miseries of an abnormal mental appetite. When a person becomes dependent upon external excitements, he is likely to be wretched when left to himself. The only help for this is in learning to find one's enjoyment in a different range of pleasures. We can never save ourselves from this result if we do not care for thought as well as for things. The poet does not find the solitary hour a burden. In it he moulds his finest conceptions and strikes the cord in which the harmonies of his thoughts best meet and blend. In such times there runs through the mind of the musician melodies more sweet than have yet been set to music. This capacity for the higher range of pleasures must be developed. It will not spring up spontaneously without either attention or effort. Neither will it ripen into fruitage in a day or a year.

We do not form a fixed preference by one act of choice, but by many acts, and

fluence of other minds; but we mature all by frequent and repeated exertion of our energies in one direction and toward one end. We shall never find ourselves in possession of intellectual and moral riches simply by willing to have them or by wishing for them, but only by accumulating them by patient effort. How, then, can we develop these desires for such pleasures and secure them? By interesting ourselves in ideas; acquiring elevating and helpful thoughts from others; by giving the mind something noble upon which to dwell; by keeping good company in men and books; by enriching the fancy with noble images; by cultivating an appreciation for the beauty which surrounds us each day we live. The capacity for enjoyment is determined chiefly by character. Enjoyment can not be imported into a man from without. He must have conditions fulfilled within him in culture of mind and heart, in the exercise of the finer feelings, in that uplift of soul that comes only to thoughtful and serious minds. So often we are concerned about what we shall have, what we shall see, and where we shall go. We talk as if the test of happiness were in these things. The more important question is: What shall we be? What we are in motives, purpose, spirit of our lives, in real culture and quality of soul determines far more than all outer conditions what the quality and range of our pleasures and enjoyments shall be. All will not depend upon our ideas, but also upon our activities, upon our interests, purposes, efforts in life. All this will be true in a still higher and nobler sense if we connect all those with the great notion of life which embraces us all. Our thoughts shall reach their highest good only when they center in the ground of all truth.

Indiana School Journal.

PUBLISHED MONTHLY.

D. M. GEETING, }
GEORGE F. BASS, } - - - - - Editors.

ELMER B. BRYAN, - - - Associate Editor.

Discontinuance.—The Journal will be discontinued when the time for which the subscriber agreed to take it has expired. The figures preceding the dash on your label give volume of Journal; those following, the number of the volume with which your subscription expires.

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Price.—Subscription price is ONE DOLLAR a year. Single copies 10 cents.

Address all communications to

INDIANA SCHOOL JOURNAL,

Commercial Club Building,

INDIANAPOLIS, IND.

Entered at the Indianapolis postoffice as second-class matter.

POST-CHECK MONEY.

For a long time the urgent necessity has been felt by business men for some cheap, safe and convenient way of sending money through the mails. When we remember that more than two-thirds of the postoffices do not issue money orders, we at once see what a large per cent. of our population are deprived of this privilege, while a safe one is expensive. Among the many bills now before Congress, one in particular should receive the attention of every citizen. It is known as the Post-Check Money Bill, was introduced to the Senate by Senator McMillan of Michigan, and to the House of Representatives by Hon. John J. Lentz, of Ohio, both on March 16, 1900. The bill is in the interest of every phase of business life, commercial organizations, newspaper publishers, book and magazine publishers, manufacturers, merchants, farmers and private citizens, for each and all of

these have at some time or another the occasion to transmit money through the mails. This bill proposes to reprint all \$1, \$2 and \$5 bills now in existence, and have their faces provided with blank spaces in which the name of the payee shall be written. This money with the new face will pass from hand to hand as our money now passes, if the space be not filled. In addition to the space for the name of the payee, a space the size of a two-cent stamp will be provided upon which the sender will paste the two-cent stamp, cancel it by writing upon it his initials and date, just as our revenue stamps are now canceled. This will be the cost to the sender. If, for instance, one wishes to send money in small amount, say \$1, by mail, he will take a \$1 bill from his pocket, write on the face of it the name of the person or firm to be sent to, the city and State, affix a two-cent stamp in the square indicated, sign his initials in ink, with date; these cancel the stamp.

Up to this time this piece of currency has passed from hand to hand as negotiable money, has been instantly formed into a personal check on the U. S. Government for \$1.00, and is as safe for transmission as any piece of exchange. This is enclosed in a letter to the person or firm desired, and when received is deposited with other checks.

The farmer, who desires to send a small sum through the mails, will not need to make a trip to some money order office. Business houses receive large sums in the aggregate in stamps, silver coin, small checks on inland banks, all indicating the enormous amount of money sent annually in this way, yet yielding no revenue to the government and no security to the sender. With postal checks in the hands of the public, it is more than probable that all

small sums would be remitted in that way, thus giving the government a larger revenue than now, yet the cost in each case would be less than one-fourth of what it is now to each sender. Provision is also made for fractional parts of a dollar to be used as above upon the affixing a one-cent stamp. The Journal is of the opinion that this bill is one of the most meritorious now before Congress, and every one who feels an interest in it should write to his Congressman and Senators urging its adoption. It is known as Senate Bill No. 3643, and House Bill No. 9632.

PERSONAL SUPERIORITY.

Superiority is hopelessly lost as soon as it is found—by the owner. One sign of personal superiority is a lack of any consciousness of personal superiority. It is always better to evince superiority without claiming it, than to claim superiority without evincing it. The superiority of sex, as claimed by the advocates of each, often fails for this very reason. If a man boldly claim his superiority to woman because he is a man proves that he is not manly, just as surely as a woman proves that she is not womanly if she boldly claims superiority over man on the score of sex. In the words of Solomon we need to say: "Let another man praise thee and not thine own mouth; a stranger and not thine own lips."

ONLY ONE SIDE.

In a well-written paper at a township institute, the writer developed quite skillfully the fact that the duty of looking up, with loving honor, to those who have age and wisdom, because of what they are, is not always borne in mind by the young. On the other hand, the duty of looking down, with loving honor, upon the young,

because of what they are to become, is not always borne in mind by us who are older. Both the young and the old have a mission in this world and if both could fully realize the opportunities each affords, the other for assistance in right living, the older because of their experience should always take the initiative and reach out and take hold of the young as the true teacher only can.

ONE'S SPHERE.

As one's soul has its bodily limitations, so is his sphere the immediate limitation of his influence. Not for the extent of the sphere, but for the manner of filling it are we held responsible. Every one of us must have a horizon which surrounds us, whether we will or not, and every movement affects the form of that horizon. Yet there is no movement that any of us can make which will annihilate that horizon or permit us to step beyond or outside of it. He is within that circle because it is his, and it is his because he is in it. No man's sphere can be too large for him to fill perfectly, nor too small for the full display of his powers. His powers are the measure of his sphere, and being so, each day's growth should enable him to enlarge his sphere and in this way enlarge his opportunities.

A STREET-CAR INCIDENT.

An elderly but sweet-faced gentleman and a young man had been wholly absorbed in conversation for some distance when, upon the silence occasioned by the sudden stopping of a street car, there fell these words from the lips of the older: "So long as you can contribute to the pleasure, happiness or comfort of any human being, you are of importance in the world—and no longer." Whatever may

have been the object of these words, it was interesting to note the changed expression on a dozen or more listless faces. In utter unconsciousness of any affect of the words, this elderly gentleman soon left the car and a score of eyes followed him into the street. Who can estimate the value of a chance word in the sense in which there is such a thing as chance.

DOING GOOD WORK.

It is what a man does, not the estimate which is put upon his doing, that is the real measure of attainment. If a student or a teacher does a thorough piece of work in the preparation of a task, and yet fails of getting as high a mark for it as he expected, he is more successful than he would be if he did poor work and took a higher stand. True success in the line of any study or other mental exercise is attained by the doing of good works rather than by having that good work recognized. If we, as teachers, could only feel the influence of this thought and lead our pupils to catch its spirit from us, one of the greatest lessons would be taught, affecting as it does the full life of the student, that can be found in our educational work.

GOOD ADVICE.

In an address to a graduating class, ex-President Harrison said, "There are too many men who can do everything, in the sense that they can do one thing as well as another; but there are not enough men who can do one thing thoroughly well. A competent man is a man who can do some one thing a good deal better than its average doing. He who would like to fill a good place should prepare himself for the work of that particular place. There are fewer competent men in the world than

there are open places for competent men. When a young man is prompted by the notion of efficient service, a place is already waiting for him; and he is wanted in it even more than he wants it."

CHILD TRAINING.

Child training begins and child character is formed earlier than most persons suppose. Out of this enormous notion comes the lamentable failure of so much of our home training of children. Many a child is not counted by his parents old enough to be fairly under training until his habits and his character are practically already influenced for all time. It is safe to conclude that the permanent trend of a child's character is likely to be given by the time he is seven years old; his training must begin at birth if he is not to be the loser because of this neglect. The old fashioned doctrine of implicit obedience, which came to many of us early in life, was helpful to us because it was never delayed as it is now until the child can "reason."

MORALITY.

In our efforts to teach morality we ought to take for our key note the language of Addison: "A positive morality is the only morality worthy of the name morality." One must have a positive conception of what right is before he can actively set himself against the wrong. Of course it is better to want to do right than merely not to want to do wrong. Children, especially, very often do wrong, even when they do not want to, because they have no more than this negative position of merely not intending to, instead of having the positive position of really intending not to. He who really means to do right has a firmer ground to stand

upon than one who does not mean to do wrong. In our dealing with children in moral instruction we need to lead them to see the great force in the positive side of action and encourage them in it.

PERSONALITY.

What a man is mainly settles the question of what he can do. Both his deeds and his words take their power from his personality. A man's example gives added weight to his testimony in favor of truth and morality which he advocates, but his character is felt through all that he says

or does. That which has a controlling power over him is sure to be felt as a power by those who observe him. It has been well said "that a man's personal attainments in character will be the limit of his personal influence in the direction of such attainment. It can not be too strongly emphasized and kept constantly in mind that the personal character of the teacher is the great influence in moulding the minds of his pupils, and when this is combined with accurate scholarship and a large sympathetic heart, he is well equipped for such a noble calling.

EDUCATIONAL INFORMATION.

MISCELLANY.

CANDIDATES FOR THE OFFICE OF STATE SUPERINTENDENT.



FRANK L. JONES.

Supt. Frank Leonard Jones has been re-nominated by the Republican party for the office of State Superintendent of Public Instruction of Indiana. All who know Mr.

Jones will agree that this compliment has been earned by faithful and conscientious work.

He was born February 25, 1872, in Howard County, this State. His early life was given to farming during the summer months, and attendance in the district and graded schools of his native county during the winter. By economizing, he saved enough money as a farm laborer to enter college at fifteen and to prepare for teaching at the age of sixteen.

By teaching in the fall and winter he was enabled to attend college in the spring and summer in the following institutions, from the first and last of which he graduated: The Northern Indiana Normal College, Butler College, Chicago University, and Indiana University.

His experience has covered all phases of the public school work except that of the county superintendency. He has been successful as district teacher, village principal, ward and high school principal, high school teacher and city superintendent. His work has been done in five counties and the cities of Greentown, Kokomo, Noblesville, Indianapolis and Tipton. The building up of the schools at the last named city brought him prominently before the public as a candi-

date for the office of State Superintendent of Public Instruction.

During Superintendent Jones's term of office he has given most attention to the inspection of the rural schools, having visited some schools in thirty counties. In these visits he is attempting—

(a) To help these schools by personal inspection of the work of the teachers followed by recommendations to the teachers and school officials.

(b) To improve the sanitary, hygienic and architectural condition of the public school houses.

The sanitation and decoration of schools is a subject that in the last few years has received much attention. Teachers, school boards, and trustees are interested and are making much progress in it.

These visits are the means of bringing immediate help to many of the district schools, and will form the basis of his recommendations to the Legislature for the improvement of the rural schools of the State. The district schools need this stimulating, helpful influence much more than the city schools; but it is believed that the influence will reach every school in the State.

Superintendent Jones attended a large number of institutes and associations last year, and is planning to attend as many or more this year. Being an experienced teacher of broad and thorough education and a good public speaker, he always has something of interest and profit to say to the teachers at these meetings.

Mr. Jones is a man of high moral character. He is well acquainted with the best methods of teaching and with the history and condition of education in Indiana, besides being in close touch with the great educational movements of the times. If successful in the election this fall the teachers of the State will feel that they have an able leader who is not only interested in, but in full sympathy with the work they have to do.

Burt Wilmot Ayres, B. S., A. M., nominee for Superintendent of Public Instruction by the Prohibitionists, was born in Hartford City, Ind., December 29, 1865. After graduating from the Hartford City high school in 1884, he attended DePauw University three

years, afterward finishing his college course at Taylor University, Upland, receiving the degree of B. S. He then pursued a post-graduate course in this institution, receiving, in 1890, the degree of Master of Arts.

As a teacher he began in the district school, gradually rising to the graded school, high school and superintendency, and finally to a college professorship. He has been su-



BURT WILMOT AYRES.

perintendent of the public schools of Redkey, Montpelier and Warren, Ind. He is now Dean of the Normal Department and professor of psychology and pedagogy in Taylor University. He has been very successful in his present position, to which he was called in 1897. Professor Ayres is highly esteemed by his students.

Almost as soon as he became a voter he allied himself with the Prohibition movement, and for a number of years it has been his absorbing theme. He might well be called the agitator of Upland. He is a living protest against the licensed saloon, and has been an important factor in making Taylor University strong in prohibition sentiment and votes.

Professor Ayres is an active church and Sunday school worker, being superintendent of the M. E. Sunday school.

Professor Ayres's varied experience in school work, together with his high educational qualifications, makes him a strong candidate.

NORMAL AT KNOX.

Geo. E. Butcher, County Superintendent, and Walter Dunn, Superintendent City Schools of Knox, will conduct a summer normal at Knox, beginning June 4, and continuing eight weeks. The indications point to a large attendance.

NORMAL AT MONTICELLO.

Supt. T. S. Thornburg, assisted by Wm. Smith, of Brookston, and W. C. Garretson, of Terre Haute, will conduct a summer normal at Monticello June 25 to August 10, 1900. Special attention will be given to the common branches as laid out in the State course of study. The underlying principles of each subject will be worked out carefully in the class. A successful term is expected.

HIGH SCHOOL GRADUATES.

From the commencement programs sent in we have compiled the following:

Alexandria, 10; Angola, 7; Aurora, 15; Brookville, 14; Butler, 13; Clinton, 10; Corydon, 7; Crawfordsville, 20; Danville, 10; Fortville, 21; Geneva, 13; Greenwood, 14; Lagrange, 28; Lebanon, 12; Martinsville, 22; Monticello, 17; Montpelier, 4; Nappanee, 12; New Albany, 38; Noblesville, 43; Oakland City, 9; Redkey, 7; Remington, 11; Rockport, 12; Shelbyville, 9; South Whitley, 10; Williamsport, 2; Winchester, 10; Connersville, 15; Crown Point, 10; Garrett, 12; Goshen, 21; New Castle, 6; Washington, 27.

ART EXHIBIT OF THE TERRE HAUTE SCHOOLS.

An art exhibit was conducted by the Terre Haute schools from the 7th to the 12th of May. Specimens of writing and drawing by every child in the schools were shown. Paintings in oil and water colors both by home and foreign artists were on exhibition. The local merchants made displays, and citizens generally contributed curios, war relics, heirlooms, china, tapestry and art needle work, until the two business houses leased for the exhibit presented a most interesting and valuable collection. This material was grouped in an artistic manner, and electric lights were so adjusted as to show everything to an advantage.

The purpose of this exhibit was to show the parents and citizens some of the regular work done along this line in the schools, of gathering together in one place for inspection and enjoyment the really valuable treasures of our people, and of demonstrating our status in the aesthetic phases of life; making of it all an educative factor of no small value to the whole community. Another purpose was to realize money with which to continue the work of school room ornamentation.

The executive committee having charge of this most excellent exhibition consisted of Supt. Wm. H. Wiley, Emilie Neukom, Rosa B. Griffith, Mariana Huston, John F. Petri, Alice Demsey, Eleanor Bartlett, Mary Katzenbach, Louis Lepper, Lulu B. Johnson, Robert Supinger.

COMMENCEMENT WEEK AT PURDUE.

The exercises of commencement week at Purdue University will begin on Sunday, June 3. The baccalaureate address will be given at the time by the Rt. Rev. Joseph Marshall Francis, D. D., Bishop of Indiana. Judge Daniel P. Baldwin, of Logansport, will deliver the annual address before the Christian Association of the University on the evening of the same day. On Monday, June 4, the Glee and Mandolin Clubs will give their concert, and the University Club will give a reception in the evening to the alumni and graduating class. Class Day is Tuesday, June 5, and the alumni banquet will also take place on the evening of that day. Walter H. Page will deliver the address on Commencement Day, Wednesday, June 6, his subject being, "The Right Use of English in a Democracy." The meeting of the alumni association on the afternoon of Commencement Day concludes the program.

TREASURER'S REPORT.

Report of W. D. Kerlin, Treasurer of the Southern Indiana Teachers' Association, has been received. It shows that 2,575 membership fees were paid at the Evansville meeting, and that the total receipts were \$852.14; expenditures, \$454; leaving a balance of \$398.14. This is another way of showing the increased interest in our educational meetings.

The State Board of Education at its last meeting granted the following State licenses:

PROFESSIONAL OR EIGHT-YEAR LICENSES.

W. A. Beane, South Whitley; Chas. A. Copeland, Stewart, Ohio; Wilbur R. Curtis, Hobart; Joseph L. Davis, Valparaiso; John O. DeHuff, Peru; Edwin C. Dodson, Dana; Geo. F. Hightower, West Franklin; Winfred W. Holliday, Bloomington; Lot A. Hufferd, Mays; Frank Larrabee, New Palestine; Edgar Mendenhall, Greensburg; James Moody, Mt. Etna; Clara J. Mitchell, Shelbyville; John W. Rhodes, Greensburg; Giles W. Robertson, Liberty; Edward F. Smith, Vevay; Chas. E. Spaulding, Orleans; Geo. H. Thompson, Hobart; Amie L. Trafalet, Vevay.

LIFE STATE LICENSES.

Manfred W. Deputy, Vernon; Harvey Evans, W. Lebanon; Ora Staley, Charlottesville; Paul Wilkie, Cambridge City.

Under the new ruling of the State Board the following applicants received State licenses as college graduates:

Sylvester H. Hall, Salem; A. A. Hughart, Valparaiso; James H. Jeffrey, Laporte; Francis M. Merica, Lagrange; Milo H. Stewart, Sheridan; I. N. Warren, Laporte.

WHERE THEY WILL ATTEND SCHOOL.

Mr. and Mrs. Babcock, Bessie Jackson and Perry Holbrook, of Gas City, and Ella Rammel, of Winchester, State University.

Marion G. Simanton, Mishawaka; Minnie Taylor, Winchester, State Normal.

Jessie M. Carpenter, Mishawaka, Benton Harbor, Mich.

Oscar G. Pickett Winchester, Colonel Parker's School, Chicago.

Louie Gordon, Winchester, Kindergarten School, Indianapolis.

Belle Edgar and Flora Steele, Winchester, Pratt's Institute, N. Y.

Lee O. Doner, Winchester, Winona.

Ethel Bowman, Winchester, Marion Normal.

Danville, Ind., will erect a new \$12,000 high school building this year, and in addition to departmental work in the high school, the eighth grade will begin it. Dr. Quayle, of this city, delivered the class address to the graduates. The entire corps of teachers are continued for next year.

Elkhart Institute opens its summer school June 12, 1900. The large attendance already assured is encouraging to the management of the school.

CHICAGO UNIVERSITY ELEMENTARY SCHOOL.

In response to many requests from normal schools, grade schools, and parents interested in the practical application of modern psychological methods to education, the University of Chicago has undertaken to issue a series of papers describing the work of the University Elementary School. These reports will deal with its general principles, and also indicate in illustrative detail how they are worked out.

This school is under the direction of the Department of Pedagogy in the University of Chicago, and attempts to put in practice a few fundamental principles of education, which may be found stated in Professor Dewey's book, *The School and Society*.

The papers will deal with the "enrichment of the elementary curriculum" by general discussion of its aims and methods in special lines, and also by telling something about the concrete material, which, through practice, has shown itself desirable and feasible.

The special and perhaps unique work of the school in organizing the study of cooking and textiles, so as not only to give proper technical sequence, but to relate organically with history, science, number work, and art, and also to afford a social medium for the school life, will be fully reported upon.

The possibilities of constructive and manual work will be set forth, telling what has been done from the first grade up, and how the work has been brought to bear upon other topics, instead of remaining an isolated study.

The report of the work of each grade, or group (given in each number), will be accompanied by a general statement by Mr. John Dewey, showing its adaptation, from the psychological side, to the stage in growth of interest and capacity reached by the child. These statements present the theory implied in the more detailed accounts of the practice which they accompany.

The monographs will be edited by the Pedagogical Department, with Dr. Dewey

as editor-in-chief, and Miss Laura L. Runyon as managing editor. Each number will be divided into two parts, one containing a general article on the work of some one department in all grades, the other a description of the work of individual grades, or groups, in all departments, for a certain length of time.

The first number (issued in February) has, as its special feature: a discussion of Principles of Education Applied to Art, by Miss Lillian Cushman, with a report of all the work of the six and seven-year-old children; the next, or March, number: Music and Song Composition, by Mrs. P. O. Kern (with words and music in full of songs composed by children of different ages), and the work of the eight-year-old children. Succeeding issues, appearing monthly (except during the summer vacation), will deal with Household Work—textiles, sewing, and cooking; Geography, Nature Study; Experimental Science; History; Constructive and Manual Work, etc.

Subscription price for the series is \$1.25; single numbers may be obtained for 15 cents each.

INDIANA COLLEGE PRESIDENTS.

In the early part of May last, there was held a meeting, unique in character, that must result in great good in unifying the educational sentiments of the State. Superintendent Carr invited the several college presidents of Indiana to visit and inspect the schools of that city and to address the citizens in the advantages of higher education.

The following were in attendance:

Dr. Joseph Swain, of Indiana University.
Prof. John L. Campbell, Wabash College.
Dr. Burris A. Jenkins, of Indianapolis University.

Dr. W. E. Stone, of Purdue University.

Dr. W. H. Hickman, of DePauw University.

Dr. W. T. Stott, of Franklin College.

Dr. Andrew Morrissey, of Notre Dame.

Dr. Joseph J. Mills, of Earlham College.

The first spoke on "Higher Education from a National and Individual Standpoint;" the second on "The College Man in the Business World;" the third, "College Women and Their Work;" the fourth, "The

College Man in the Industrial World;" the next, "Education of the Future;" the next, "Indiana and Her Higher Institutions of Learning;" the next, "The Need of Higher Education;" and the last, "Our Best Gifts to Our Children."

Each institution of learning represented has given to the high school pictures and views of its buildings and equipments. These pictures have been framed and now decorate the walls of the school building, where they will remain.

The audience at both the afternoon and evening meetings was very large, so that, out of this association there must come to the young people a greater desire for higher education.

HISTORY TEACHERS' ASSOCIATION.

The History Section of the Indiana State Teachers' Association will hold its third annual meeting at Indianapolis, June 15 and 16, room 26, Grand Hotel. Cyrus Hodgkin, President.

PROGRAM.

FRIDAY—2:30 P. M.

Status of History Teaching in the High Schools of Indiana.—Mr. Fred. Austin Ogg, Indiana University.

General Discussion.

Note.—This paper will be of especial interest to all high school teachers of history.

Paper—Report of the Committee of Seven on History in American Secondary Schools.—Miss Elizabeth Messmore, Terre Haute High School.

Discussion—Supt. S. K. Gamald, Lima.

FRIDAY—8:00 P. M.

Paper—Report of the Committee of Seven on History below the Secondary Schools.—Prof. E. L. Hendricks, Mitchell.

Discussion—Miss Lydia R. Blach, Supervisor Indianapolis Schools.

Collateral Reading with History Work.—Supt. J. A. Carnegie, Columbus.

Discussion—Prof. W. C. Goble, Fairmount Academy.

SATURDAY—9:30 A. M.

Presentation of History Work in County Institutes.—Dr. J. A. Woodburn, Indiana University.

Discussion—Supt. George R. Wilson, DuBois County.

Indiana History—How Much, and Where in the Course?—Supt. Louis Lambert, Fowler.

Discussion—Prof. W. S. Davis, Richmond, High School.

Headquarters of the Association will be at the Grand Hotel, which offers a rate of \$2 and \$2.50 per day, and furnishes the use of an assembly room.

Time will be given for the general discussion of each paper. All teachers of history and kindred subjects are cordially invited to attend, to join the section, and to participate in the exercises.

County and city superintendents, high school principals, township trustees, and other school officers who are interested in the improvement of the history work in our schools, are earnestly requested to attend and contribute to the value of the meeting.

HIGH SCHOOL ADDRESS.

Robt. Gillies, of the Angola High School, delivered the following address at the commencement recently held there. This goes to show that our high school students are taking an active interest in the questions of the day and expressing an opinion thereon:

ARE WE INNOCENTS BEING MURDERED?

To-day is not unlike the past in the matter of grumblers and people who like to magnify their ills.

Frequently we find one whose wall is really pitiful—to a listener who is ignorant of facts.

Such a complaint is the one raised against our grand school system; and, as champions of it, many able writers and periodicals have enlisted themselves.

In substance, their argument is that the free schools instituted by the founders of our government have been developed into lawful human slaughter houses by unscrupulous educational boards acting only for their own selfish ends and with an eye on future political possibilities.

How startling the disclosure!

And how elegantly and conclusively they prove it!

I would call your attention to at least a few of their statements.

In the first place, will you notice what extreme examples they have chosen?

One writer tells of several people who have died soon after graduation; and that is almost conclusive proof in her mind that it is a dangerous thing to graduate.

How reasonable. If one pupil has died soon after graduation, ten thousand have not. If numbers are any proof the question is easily settled.

Again, the story is told of "a school * * * where little children go three hours in the forenoon and three hours in the afternoon, and are punished for the least restlessness." This may be so, but do you have the least idea that that is the general rule among schools? One's imagination would have to stretch a good ways to think so.

In another instance, the idea is ridiculed that certain methods used in the schools give any benefit. I can not but ask, "Do you think teachers would use methods year after year that have failed to give the desired benefit?" Pray change your mind if you do, for "that is not their way of doing it."

Many more illustrations are shown, all quite as extreme as those I have mentioned and none of them can be taken as fair illustrations of the general rule.

I have made a little investigation of the matter and have had replies from schools representing in all about 50,000 pupils, scattered throughout all the United States.

From these I learn the following facts:

About $1\frac{1}{2}$ per cent. of the pupils enrolled drop out annually because of nonpromotion, weak mindedness, etc. (we might term it mental inability); that $1\frac{1}{2}$ per cent. of the enrollment drops off because of physical inability, nervous breakdowns, sickness, weak eyes, and kindred troubles; that about 1 per cent. drops off because of what we wish to call social pressure.

Mental inability, $1\frac{1}{2}$ per cent.

Physical inability, $1\frac{1}{2}$ per cent.

Social pressure, 1 per cent.

Many more interesting things were learned which may be brought in later.

A great howl is raised that the schools ruin the health of children.

In some cases we must admit that it does; but inquiry shows this: Of all the cases of failing health among school children, not one was attributed entirely (or even in great part) to the school.

Many times, however, the answer did come back: "Look to unsanitary home conditions."

But still more often was it charged neither to school nor home conditions, but something like this is said (this is from a Crawfordsville, Ind., reply): "Weakness from inheritance or vice, vile theatres, excited passions, etc., ruin the children. Look to loss of sleep, poor food, climatic conditions, intemperance in all things, and you will see why our greatest manufactories are making patent medicines. Keep them (the children) off the child-killing streets, the devil's kindergarten."

By far the greater per cent. of physical and mental breakdowns is caused by inborn and chronic diseases.

And yet, our opponents would blame all this unconditionally to our school system. Any fair-minded person after a little thinking would know better.

And then there is another side to this same point.

Suppose we grant that the physical breakdowns occurring among school children are, in a great part, caused by the schools. what can you make of it?

Will you but consider that the child's school days are a part of life just as much as the later days are?

Of course, the trials and rebuffs of the world of business are not experienced by the little child; but the trials and rebuffs of school life mean just as much to the school child as those of the world do to men of the world.

And, therefore, school life is not unlike after life.

Viewing it in that light, can you reasonably expect that there would be no cases of failing health in the schools?

We scarcely pick up a newspaper but we see accounts of cases wherein the physical man has succumbed to overwork or terrible mental strains in everyday life; every suicide—and you know how numerous they are

—is the result of a breakdown, physical or mental.

With health failures so very common in everyday life, why should it be such a surprise and cause of anxiety to hear of one among school children?

And, again, why should we so severely censure the one and not the other?

If you condemn the school you must also condemn manual labor, the mercantile business, the law, medics, science, and, in fact, every vocation in which men engage themselves.

One correspondent says this: "It is true here as in after life that the 'fittest survive.' The course can not be planned for the strongest, neither should it be planned for the weakest;" and the statements are true.

It is a law of creation that only those things that strive ever for advancement shall survive. In other words, if anything makes no effort towards improvement, but just stands still, thus allowing all other things to surpass it, that thing shall eventually drop out of existence.

Apply the law to school life and the result is that if any pupil does not advance as fast as his fellow schoolmates (whether from lack of ambition or utter inability to do the required work, makes no difference), that pupil must drop out; and, perchance, death soon relieves him; and it's no fault of the school either.

The blame lies entirely with the pupil himself or his parents, yet many accuse the school system of man slaughter.

Our opponents say that too much is required of school children to-day, and one of them kindly submits his estimate of what should be required of a child at the age of fourteen:

1. To read aloud pleasantly and intelligently.
2. To write legibly.
3. To spell correctly.
4. To express himself clearly in a letter.
5. To count accurately.
6. To use his mind himself.
7. To use his fingers so that his hands will be a help to him in earning his living.

And he caps the climax by saying, "That is all that should be expected of the child."

Well, I should think it is.

We'll all agree on that; but where is the school that demands more, and where is the common scholar that has learned more in school?

I believe the writer missed his aim that time, for he has patterned his ideal course almost exactly upon the average course as we have it to-day. Then, too, it's few that come up to the set standard, for, though they may be able to write legibly and count accurately, yet the vast majority of fourteen-year-old pupils are sadly deficient in the other requirements.

Who expects to live without working?

Nobody with a right conception of life.

After our first parents were driven from their paradise, one of the very first laws laid upon them was, "In the sweat of thy face shalt thou eat bread till thou return unto the ground," an edict that has stood unrevoked through all the ages.

"Earn your bread by the sweat of your brow" is a law recognized by all men.

There is no attainment that is an exception to that rule, not even the achievements of a child.

Yet, some people think learning will come without due labor, or that the proper amount of learning will come without due labor.

But they may ask: "What is a proper amount of learning?"

I would answer: "That which enables men with the least possible effort."

When you know that much you know enough, but not till then.

And where can we learn all this?

You need not look far.

You have an "acre of diamonds," but perhaps you don't realize it, in every school.

I do not mean to say that you can learn it all there, but you can learn a very great part there in getting a right start, the greater part of anything.

It is one of the main objects, yes, the main object of our schools to teach boys and girls the fundamental principles of life; to teach them how to use themselves to the best advantage; "to invest themselves where most needed," as Conwell says.

A school that does not meet these requirements fails in the one grand purpose of the

institution. Some may argue that those fundamental principles may possibly be learned in the public schools, but that much unnecessary matter is taught along with the principles.

Such is not the case.

All tends to the one grand end.

Too much is not required of pupils; they are not worked too hard, if my informants can be relied upon, and I believe they can.

In answer to the question, "Are pupils overworked?" only three replies out of the whole number were not decidedly No, No, No; and those three did not say definitely Yes.

What better proof could be given than the voice of the pupils themselves?

A question that involves the lives of children and, too, one of the grandest institutions among men, is indeed a very serious one.

But, after all, are the lives of the children so greatly endangered?

The opposing side would make you think so; and with only their side in view, their plea seems very reasonable.

But investigate.

Can you think of no case wherein, as our opponents would tell you, the school has impaired the health and mental faculties, and maybe ruined the life of some child?

Think up one and then apply these questions.

Was it a healthy child in the beginning?

Was it descended from a sturdy line of ancestors?

Were its surrounding, all its environments of a health-promoting kind? And that question includes very much.

Then looking to the school:

Was not the school as healthful in all respects as the home?

Was too much required of the pupil?

Was not the pupil too ambitious?

If you can truly answer all these questions in favor of the other side, you have a very exceptional case in mind, for investigation shows that in nearly every case of "modern murder of innocents" it is rather a "modern suicide."

Repeating a little, it is a very serious question that involves one of the grandest institutions among men.

And who questions that the public school system is one of the grandest institutions among men?

Can you imagine what we would be to-day had there never been a common public school?

It is the public schools that have made this nation what it is; without them our high degree of civilization would be an unknown thing.

And yet, some would do away with them, or, at least, change for something else that great system of education that is to-day the pride of the world.

What would you say to the man who would change our Christianity for something else?

How much less should be said to him who would exchange Christianity's sister institution, our free-school system?

COUNTY SUPERINTENDENTS' ASSOCIATION.

Program of County Superintendents' Association, to be held at Winona Lake.

TUESDAY P. M., JUNE 26.

- 2:00 (1) Opening.
- 2:15 (2) Some Problems in the Sanitation of our Schools.—Dr. Severance Burrage, Purdue University.
- 2:50 (3) Discussion.—I. B. Webber, M. D., Secretary City Board of Health, Warsaw.
J. M. Bash, M. D., Secretary County Board of Health, Warsaw.
- 3:10 (4) Classification and Gradation of Schools.—Supt. C A. Van Matre, of Delaware County
- 3:35 (5) Discussion.—Supt. L. H. Hamilton, of Jasper County.
- 3:50 (6) General Discussion.
- 4:00 (7) Miscellaneous.

WEDNESDAY A. M.

- 9:00 (1) How much Sanitary Science shall be Taught in our Public Schools?—Dr. Burrage.
- 9:30 (2) Centralization of Schools.
 - (a) From the Standpoint of the School. (20 min.) Supt. Wm. E. Wineburg, of Wayne County.

- (b) From the Standpoint of the Child. (20 min.) Supt. E. E. Robey, of Howard County.

- (c) From the Standpoint of the Patron. (20 min.) Supt. Geo. W. Ellis, of Elkhart County.

- (d) General discussion. (20 min.)

11:10 (3) Address.—W. P. Kane, President Wabash College.

8:00 p. m. Recital.

THURSDAY A. M.

- 9:00 (1) The Influence of Fine School Architecture and Decoration.—Dr. Burrage.
- 9:30 (2) Discussion.—Supt. A. A. Hughart, of Porter County.
- 9:45 (3) Needed Amendments to Text-Book Law.—Supt. Wm. F. Landes, of Marion County.
- 10:00 (4) General Discussion.
- 10:15 (5) State Adoption of Uniform High School Text-Books.—Supt. Jas. H. Clark, of Bartholomew County.
- 10:30 (6) General Discussion.
- 10:45 (7) Need and Means of Obtaining a School Library at every one of the Central Points where Schools are Centralized.—Supt. Chas. W. Paris, of Randolph County.
- 11:00 (8) General Discussion.
- 11:15 (9) Value of the County Superintendent's Association and Nature of its Work.—Supt. Elijah A. Gladden, of Scott County.
- 11:30 (10) Miscellaneous and Adjournment.

FIFTEEN-DAY TICKETS

May be sold daily, good going only for continuous passage, commencing on date of sale; good returning, continuous passage, leaving destination only on date stamped by agent of Winona Assembly, within fifteen days from date of sale, but not later than September 15, at one fare plus 10 per cent. If your railroad agent should not have the tickets in stock, drop the General Passenger Agent a card requesting him to furnish the same, or request your local agent to send for the tickets. (See him in time.)

Please remember that your ticket must be stamped at Winona Entrance Building before it is good returning.

HOTELS.

Headquarters at New Winona Hotel. Rooms and board may also be secured at the Inn. Rates will be made to members of the Association upon application. Regular rates, \$2 and \$1.50 per day.

The Western Writers' Association meets at Winona the same week. They give an entertainment each evening.

All boats will be at the service of the superintendents.

OBITUARY.

Prof. Sheridan Cox, ex-superintendent of the Kokomo schools, departed this life at his home in that city May 2, in the sixty-eighth year of his life. The deceased was born in Ohio and graduated from Delaware College with the class of 1862. For several years thereafter he taught in the district schools of his native State. About thirty-five years ago he came to Logansport, Indiana, and served seven years as superintendent of the schools of that city. In 1873 he was elected superintendent of the Kokomo schools, which place he held continuously for twenty years. His work here involved a complete organization and development of the Kokomo public school system. So well did he succeed in this work that the Kokomo schools have ever since ranked amongst the very best in the State. He retired from the superintendency in 1893, since which time he and his faithful wife, who has been the sharer of all his educational labors, have conducted a private school in Kokomo. Professor Cox was naturally gifted for the work of school supervision, being possessed of rare judgment and good executive ability. He was a skillful organizer and had the esteem and confidence of his teachers and the people. In him Indiana loses one of her pioneers in school work and Kokomo loses a good exemplary, Christian citizen.

"His life was gentle, and the elements
So mixed in him, that Nature might stand
up,
And say to all the world, This was a man."

PERSONAL.

Reba C. Stewart and Georgia Jones, of Alexandria, will spend next year in Indiana University on leave of absence.

Mabel Bonsall, teacher of mathematics in the Alexandria high school, enters Indiana University in September for the completion of her course.

Dr. E. E. White will deliver the commencement address (June 1st) to the graduating class of Alexandria. A class of ten completes the course there.

J. T. Giles, Principal of the Alexandria high schools, resigns to enter Stanford University for the next two years. His place will be filled by Jacob Collicott, now in Indiana University on leave of absence.

Mary D. Welch, Principal of the Mishawaka high school will spend the summer at Bay View, where she has been each summer for the past three years. Her sister, Anna, also a teacher in the schools, will accompany her.

J. W. Walker has taken service with the New York Life Insurance Company as a general field agent in Indiana. His wide acquaintance in the State will serve him well and in this capacity his large circle of friends wish him success.

W. D. Kerlin has been retained at Martinsville. He will attend Chicago University this summer, completing his work in philosophy under Dr. Dewey. A new high school building has been provided for, much to the joy of the people and the school authorities. Superintendent Kerlin is a strong man in school work and he is growing stronger.

Jas. R. Hart has been re-elected again at Lebanon. Superintendent Hart is widely known through his official connection with the State Teachers' Association, where his uniform courtesy and prompt attention to business has made him many friends. His work in the schools at Lebanon has been successful. He has placed them upon a high plane of efficiency.

J. H. Tomlin was again re-elected superintendent of the Shelbyville schools by unanimous vote of the board. He has had no easy task to organize and unify the work of these schools, but he has done it well. He is showing himself a strong man along the lines of organization and school management. He is a close and accurate observer of school work.

S. W. Baer has been re-elected at Nappanee as superintendent of schools for the sixth time, and this time at an increased salary. An addition to the present large school building will be erected this year. There is a growing school interest and the movement here as elsewhere is toward the high school. Superintendent Baer is a good man at the helm.

Supt. J. W. Wyandt, of Angola, has under consideration a very material change in the course of study for the high school. The basement of the main school building will be fitted up for a chemical and physical laboratory. A suburb having been recently annexed makes an addition of a new school building. The present graduating class is regarded as the strongest one ever sent out from the school.

F. S. Morgenthaler has been re-elected at Rockport at an increased salary. The schools have been crowded from the kindergarten to the high school, requiring several additional rooms. The educational sentiment has always been good here but it is now believed to be materially quickened. Considerable attention has been given to beautifying the rooms which has brought excellent returns in making the children happier.

J. W. Hamilton, of Monticello, was offered the superintendency of the Attica schools entirely unsolicited. He had just been re-elected at Monticello for the tenth time and the board was not willing to release him, but it did the gallant thing by making it worth while for him to remain. His work has been unusually strong and the board and the people hold him, universally, in highest esteem both as a citizen and as a superintendent.

C. M. Seller, Principal of the Howell schools, will resign his position with the closing of the present school year to take up the study of law. He will take a course in a law school and will then locate in some thriving western town. Professor Seller has been principal of the Howell schools for a number of years and has given the best of satisfaction as a teacher. He is a young man of exceptional ability and success in the legal profession is predicted for him.

Supt. I. V. Busby, of Alexandria, closes a very prosperous school year. He goes about his work like a master builder. He believes in scholarship as a basis for a teacher's work, and every year one or more of his teachers ask for a leave of absence to attend school. He has always encouraged this among his teachers, and as a result, the example of these teachers brings many students into the high school. There is a good school spirit in this community, and their superintendent stands high among the people.

F. D. Churchill closes his seventh year at Oakland City and has been invited by the school board to continue. Two new teachers will be added next year. In the theses prepared by the graduates, he tried a novel experiment with success. Instead of giving different subjects for discussion the class took the several parts in one subject. The class discussed "The Old Man Eloquent," by dividing it into "Why Called 'Old Man Eloquent,'" "His Services as a Diplomat," "His Unpopularity," "His Journey from One Party to Another," "The Presidential Election of 1824," "His Administration," "His Defense of the Right of Petition," "I Will Put the Question Myself," "Lessons from His Life."

Supt. B. J. Bogue, of Mishawaka, will spend his vacation in Europe. A large and modern new school building on the north of the river will be ready for use at the opening of the next school year. This takes the place of an old frame building burned last August. The high school is growing more rapidly now than for some years, as many parents thought the eight-grade work sufficient for "the battle of life," and their boys went to work in the factories. In the even tenor of his way Superintendent Bogue

has brought about a change so that next year he confidently expects 100 in the high school.

JASPER.

The school trustees have retained Supt. E. F. Sutherland for another year at an increased salary. New supplies, books and furniture will be purchased, and a nine-months' term guaranteed.

BUSINESS NOTICES.

Parties desiring to visit Richmond, Old Point, Norfolk, Virginia Beach or Washington, en route to or from Charleston during meeting National Educational Association, July 7-13, 1900, should see that their tickets read via Atlantic Coast Line, between Charleston and points named. This is the shortest and most direct route and the only line operating through trains, coaches and Pullman cars between Charlestown, Richmond and Washington. For further information address W. N. Royall, General Agent, Charleston, S. C.; H. P. Clark, General Eastern Agent, 229 Broadway, New York; J. H. Johnson, New England Agent, 300 Washington Street, Boston, Mass.; Sam'l Mullin, Jr., Agent, 31 S. Third Street, Philadelphia, Pa.; A. C. Kenly, Agent, 107 E. German Street, Baltimore, Md.; A. L. Reed, District Passenger Agent, 601 Pennsylvania Avenue, Washington, D. C.; C. S. Campbell, Division Passenger Agent, 838 E. Main Street, Richmond, Va.; H. M. Emerson, General Passenger Agent, Wilmington, N. C.

TRIP TO KANSAS CITY.

HOW INDIANA WILL ATTEND THE NATIONAL CONVENTION.

Preparations have been completed by the State committee for the transportation and entertainment of the Indiana Democrats who will attend the National Convention at Kansas City. It is estimated by Chairman Martin that at least four hundred Democrats of the State will attend.

Arrangements have been made for a special train, which will leave Indianapolis

Monday, July 2, at 3:30 o'clock p. m., and will arrive at Kansas City the next morning at 7:45 o'clock. The route will be over the Vandalia line to St. Louis and thence by way of the Missouri Pacific Railway to Kansas City. The fair for the round trip from Indianapolis will be \$14.

This will be the official train and will be known as the "Indiana special." It will carry the State committee and delegates, and the officers of the State committee are very anxious that all Democrats and their friends who intend visiting the convention attend this train.

On arrival at Kansas City the Indiana delegation will go to the Coates House, where rooms have been engaged for its entertainment. The headquarters of the delegation will be on the second floor of the Coates House, where two large double parlors have been reserved for the entertainment of the Indiana delegation.

Not later than June 6 the State committee will receive a map of Kansas City, showing the location of all the houses where visitors can be entertained. It is understood that the entire residence portion of the city will be given for the entertainment of visitors.

MAKE YOUR VACATION PROFITABLE.

To many vacation is only a dissipation, and really worse than loss of time. Idleness is not what teachers, students, business men or clerks need. A wholesome change in studies and mental exercise, such as one can get by taking a course in the special summer schools of the Indianapolis Business University, is all that any one needs or could desire. By change in studies and locality many of the most successful educators and professional men are making their summers as profitable as any other part of the year.

This reliable, enterprising institution offers the fullest and choicest regular and elective courses. Calls for its graduates far exceed the supply. It places its student in the best paying positions, and is enrolling more students than any two other schools in the West. Its new attractive catalogue is full of inspiration for any student or person aspiring to success in life.

NATIONAL EDUCATIONAL ASSOCIATION.

Great Meeting at Charleston, S. C., July 7-13. The Queen & Crescent route, the great line to the Southeast, makes low rates for the occasion. Chattanooga and Asheville visited en route.

The meeting this year at Charleston is one of special import. Since the trying days of the Reconstruction period the educators, north and south, have been rather slow about the cementing process which has gone on more rapidly with other classes; but the wonderful display of enthusiasm upon the part of the southern teacher, in working for the success of the Charleston meeting indicates an entirely new era in the history of the American School and gives promise that the Charleston meeting will be the greatest convention of the N. E. A. that has ever taken place in its history.

As a meeting place Charleston is of unusual interest to students of history, particularly that of the Revolutionary period. In the War of the Revolution the State was a leader among the thirteen colonies and it still points with undiminished pride to such names as King's Mountain, Cowpens, Camden and Fort Moultrie. The later and more unfortunate days of the '60's are marked, too, by many a brave defense and struggle against the inevitable.

Charleston in summer is delightful. The continuous incoming breeze from the sea keeps the temperature pleasant on the warmest days. No sun strokes or stifling heat are here to be found, such as conventions often labor under in northern inland cities.

National Educational Association tickets via the Queen & Crescent route are so arranged that one can visit Chattanooga, Chickamauga Military Park and Lookout Mountain, as well as the mountain city of Asheville and the famous "Land of the Sky." The stop-over privileges on these tickets are most complete indeed, and the historic points at Chattanooga as well as in the Blue Grass and the Cumberland Plateau are quite as great as those found at Charleston.

W. C. Rinearson, G. P. A., Cincinnati, is preparing a very interesting lot of printed matter with maps and illustrations in abun-

dance, setting forth the things that are of most interest to the teacher both at Charleston and en route. Every teacher in the country should see to it that a supply of this printed matter is in his hands at once whether he expects to make the trip to Charleston or not.

HO! FOR CHARLESTON—N. E. A.

The National Editorial Association meets in Charleston, July 10-13, 1900. The route selected for the Indiana delegation is the Queen & Crescent, and Southern railways, starting from Louisville and Cincinnati and going via Asheville or Chattanooga, Atlanta and Augusta. The points of meeting will be Louisville and Cincinnati, and special trains will leave these points on Friday, July 6th, with stops at interesting points en route, arriving in Charleston July 9th. The rate is one fare plus \$2, with choice of returning via seven other routes. A diverse route may be chosen by payment of slight additional sum.

The rate from Cincinnati is \$21.85; Louisville, \$21; Evansville, \$21.60; Terre Haute, \$24.90; Indianapolis, \$23.80; Ft. Wayne, \$25.85; Lafayette, \$25.70.

Indiana should send a large delegation to this meeting. For full information write to any of the undersigned.

J. W. Carr, State Director, Anderson; F. L. Jones, Indianapolis; D. M. Getting, School Journal, Indianapolis; Chas. F. Patterson, The Inland Educator, Terre Haute.

BOOK NOTICES.

A Smaller History of Rome. By Sir William Smith, D. C. L., LL. D. New and thoroughly revised edition by A. H. J. Greenidge, M. A., Lecturer and late Fellow of Hertford College; Lecturer in Ancient History in Brasenose College, Oxford. Cloth, 12mo, 371 pages, with colored map, plans and illustrations. Price \$1. American Book Company, New York, Cincinnati and Chicago.

There is probably no book on this subject more universally used by high school and similar schools than this Smaller History of Rome. It occupies a distinct position by

itself. In this new edition care has been taken to preserve the essential characteristics and proportions of the original book as far as possible, with due prominence to the most important events. Some valuable additions have been made, however, including the results of recent historical investigations. In topography, as well, it is a vast improvement, and all the maps and a larger portion of the illustrations have been especially prepared for this volume. We predict for it a great success.

First Book, Home Geography and the Earth as a Whole, By Ralph S. Tarr, B. S., F. G. S. A., professor of dynamic geology and physical geography at Cornell University, and Frank M. McMurry, Ph. D., professor of theory and practice of teaching at Teachers' College, Columbia University. The Macmillan Company, publishers.

This is the first of a series of three volumes; the second deals with North America; the third, with Europe and the other continents.

Part I of this volume treats home geography under the following heads: The soil, hills, mountains, valleys, rivers, ponds and lakes, the ocean, the air, industry and commerce, government, maps.

This book contains more home geography than any book we have examined. We are glad to see this innovation. The principle is correct.

We are glad also to see an effort to do away with a geography book as big as a barn door. This book is about the size of the fifth reader, and yet it contains excellent maps which exhibit all that the pupil needs.

FOR THE IDENTIFICATION AND STUDY OF BIRDS.

Merriam.—Birds of Village and Field, \$2; Birds through an Opera Glass, 75 cents.

Minot.—The Land-Birds and Game-Birds of New England, \$3.50.

BIRD LITERATURE.

Bailey.—Talks Afield, \$1.

Merriam.—A-Birding on a Bronco, \$1.25.

Miller.—In Nesting Time, \$1.25; Little Brothers of the Air, \$1.25; A Bird-Lover in the West, \$1.25; Upon the Tree-Tops, \$1.25; Bird-Ways, \$1.25.

Burroughs.—Wake-Robin, \$1.25; Birds and Poets, with Other Papers, \$1.25; Signs and Seasons, \$1.25; Locusts and Wild Honey, \$1.25; A Year in the Fields, \$1.50; Birds and Bees, and Sharp Eyes, 40 cents; Fresh Fields, \$1.25; Pepaction, and Other Sketches, \$1.25; Winter Sunshine, \$1.25; Riverby, \$1.25.

Bolles.—From Blomidon to Smoky, and Other Papers, \$1.25; At the North of Bearcamp Water, \$1.25; Land of the Lingering Snow, \$1.25.

Whitney.—Bird Talk, \$1.

Lowell.—My Garden Acquaintance (in Modern Classics, Vol. 31), 40 cents.

Torrey.—The Foot-Path Way, \$1.25; A Rambler's Lease, \$1.25; Birds in the Bush, \$1.25; Spring Notes from Tennessee, \$1.25; A Florida Sketch-Book, \$1.25.

Thoreau.—Walden, \$1.

These books may be obtained of the regular booksellers, or of the publishers, Houghton, Mifflin & Co., Boston, New York, Chicago.

Principles of Public Speaking. Comprising the technique of articulation, phrasing, emphasis, the cure of vocal defects, the elements of gesture, a complete guide in public speaking, debate and parliamentary law, together with many exercises, forms and practice selections. By Guy Carleton Lee, Ph. D., of Johns Hopkins University. G. P. Putnam's Sons, New York.

Ivanhoe. By Sir Walter Scott. Edited by Prof. Lauder MacClintock, A. M., of the University of Chicago. D. C. Heath & Co., Boston and Chicago, publishers. The volume contains sixteen full page illustrations, by Charles E. Brock.

The text is the nearest approach to the definitive edition that has yet been published. The editor spent several months in England and Scotland last summer collating the text of the various editions on which Scott himself had bestowed care.

The line numbers and foot-notes have always annoyed us. We find neither of these on the page of the text. The notes are in the back part of the book. So the student may read without interruption until he encounters a difficulty. This gives him credit for having enough intelligence to know when he needs help.

The foregoing particulars indicate that this edition is one of the very best for the general reader and student.

The "Mother Tongue" is the title of a two-book series of language books by George Lyman Kitttridge, professor of English in Harvard University, and Sarah Louise Arnold, Supervisor of Schools in Boston. Ginn & Co., Publishers.

It is generally conceded that teachers are several years ahead of any available language books in the manner and spirit of their teaching of language. The text-books on language are usually very formal, and, therefore, fail to stimulate the pupil to think. The authors of this series have made an attempt to break away from this formalism. We have not had time to examine the books thoroughly, but we can say that if the authors have succeeded in doing their work as well as the publishers have done theirs the books will be a great success.

We did note in the second book that the author does not believe in making an effort to separate the name of a thing from the thing itself. (See preface, page vi.) On p. 37 he says, in the sentence, "The golden butterfly glistened through the shadowy apartment," that to the noun butterfly is attached the word golden describing the butterfly; and it does this by "attributing some quality" to the noun butterfly. Now if the pupil has been stimulated to think enough to break away from this old formalism referred to, he will be obliged to conclude that the noun *butterfly* has the attribute expressed by the word *golden*.

ANSWERS TO STATE QUESTIONS.

ARITHMETIC.

(Answer any six, not omitting No. 2.)

1. Should number work be concrete with beginning pupils? (Give reason for your answer.)
2. Add 210131; 999999; 415683; 130005; 518877; 612384; 876548; 717777; 567086; 610018; 510376; 314567; 816718; 312100; 877655.
3. What is the side of the square field whose area is ten acres?
4. A and B can do a piece of work in six hours. After A has worked alone for three hours, B commences, and, working alone, finishes the work in ten and one-half hours. In how many hours can A do the work alone?

5. Do you think square and cube root should be taught thoroughly in the public schools? Give reasons for your answer.
6. At what rate will \$584.00 gain \$65.70 in one year six months?
7. Algebra. Find the number whose third part added to its seventh part gives a sum equal to twenty.

Answers.

1. With beginning pupils number work should be concrete because the powers of mind at that age are not developed sufficiently to do abstract reasoning. The first lessons should be given by means of sensible objects in order to give distinct ideas of arithmetical quantities and their relations.

2. 8489924 is the sum.

3. 10 acres = 1600 sq. rds.; $\sqrt{1600} = 40$; hence, the side is 40 rds. long.

4. 6 hours' work by A and 6 hours' work by B complete the work; 3 hours' work by A and $10\frac{1}{2}$ hours' work by B also complete the work. Comparing these amounts it is seen that 3 hours' work by A are equivalent to $4\frac{1}{2}$ hours' work by B; or one hour's work by A is equivalent to $1\frac{1}{2}$ hours' work by B. To illustrate, if A could hoe 3 rows of corn in one hour, B, in the same time, could hoe only 2 rows; hence, A's work is to B's work as 3 is to 2, and where they both work together for the same time, A does $\frac{3}{5}$ and B does $\frac{2}{5}$. In one hour both can do $\frac{1}{5}$ of the work. Of this A does $\frac{3}{5}$ of $\frac{1}{5}$ or $\frac{3}{25}$, or $\frac{1}{10}$; hence, A can do the work in 10 days. And B does $\frac{2}{5}$ of $\frac{1}{5}$ or $\frac{2}{25}$, or $\frac{1}{12.5}$; hence, B can do the work in 15 days.

5. Why not? It takes but a short time when rightly done; they give ideas in regard to equal factors that are helpful in comprehending the relations of numbers; they are frequently of use in estimating dimensions or measurements; and the mental discipline afforded is of special educational value. We are aware that there is a sentiment against spending any time with these processes, but it is, in our opinion, without any solid foundation, and is prompted by incompetency and a desire to seek the line of least resistance.

$$6. P \times R \times T = I; \text{ hence, } \frac{584}{1} \times R \times \frac{3}{2} = 65.70; R = 65.70 \div \left[\frac{584}{1} \times \frac{3}{2} \right] = 65.70 \times \frac{1}{584} \times \frac{2}{3} = .075, \text{ or } 7\frac{1}{2}\%.$$

7. Let x = the number; then, $\frac{x}{3} + \frac{x}{7} = 20$; or $7x + 3x = 420$; $10x = 420$; $x = 42$.

SCIENCE OF EDUCATION.

(Any five.)

1. In the view of the author of "Organic Education," what are the great ethical advantages of teaching under the organization plan?
2. Is it reasonable to require teachers to be wide and thorough students of psychology, ethics, sociology, economics, art, etc.? Give reasons for your answer.
3. Why is the "story" the typical form in which materials for the child's study are set before his mind?
4. By "story" as here used is meant "the organized, continuously inter-related body of ideas," which is addressed to the child. What advantages are there in thus asking him to study a body of organized subject matter?
5. In telling a story to the child the "sequence" method is followed. What does this mean?
6. What is meant by the "stream of consciousness"?
7. Is it possible, and if so, is it desirable, to get rid of all emulation in the school? Discuss, giving reasons.
8. A recent writer says that "habit is not only second nature, but that it is ten times nature." What would he seem to mean by this, and is it correct?
9. Recent studies seem to show that it is a law of the human mind that some kind of expression follows every impression—that every stimulus begets some kind of reaction. If this is true, what important educational implications does it contain?
10. What are some of the advantages and disadvantages of private instruction as compared with class instruction?

Answers.

1. (See Organic Education, pages 26, 27.) The prime advantage which the ethical teaching under the organization plan may be said to have over others, is that instead of imposing upon the children in a certain stage of development an ideal wholly extraneous to themselves, the fruit of a different period in civilization, the ideals naturally growing out of their own mental status are simply allowed full fruition in their conduct, that these may in turn, give place to further ideals. The natural ethical development of the child is furthered—that is all—not thwarted by the stamping out of his own ideals, nor by the imposition upon him of ideals remote from, and incomprehensible to, him. By this means the individual child gains the invaluable habit of pursuing his ideals into the stage of conduct, reflecting upon that conduct, as its consequences return upon him, and thus modifying or reconstructing the old ideal in accordance with the new light.

2. Certainly, for if such qualifications were possessed by teachers, when children asked them

for bread they would not be given a stone. The uplift and inspiration that the schools would receive under such teachers would be astonishing. Children could then acquire the mental strength and breadth of culture that they so richly deserve. (See pages 27, 28.)

3. Because the ideas are in this manner presented in a concrete form, and only by the story can the subject matter be presented with sufficient attractiveness to sustain attention and secure interest. (See page 31.)

4. Unrelated ideas have no educational value whether they are being acquired by a child or by an adult. A number of ideas following each other in sequence and related as cause and effect will be comprehended and retained, because of the unity and the continuity in the material. (See page 31). Unrelated ideas given to a child might be compared to the memorizing of details of statistics.

5. The sequence method is the method by which a series of events or circumstances are given to the pupil in a connected form, and so related that each event or circumstance adds to and makes effective the other parts and the whole. (See pages 31 and 32.)

6. By the "stream of consciousness" is meant the powers of the mind moving smoothly on from point to point in its effort to secure "freedom," "self-realization." (See pages 32, 41.)

7. It is not possible, for no power could be brought to bear that would hold the instinctive tendencies of human nature under such complete control or subjection. It is not desirable for, unless it should develop into a bitter rivalry, it is a healthful and effective spur towards the completion of tasks or the mastery of knowledge.

8. His is correct, and he meant that habit is a chain that securely binds us to an action, which because of the training that the nerves and cells have received is ten times more likely to occur than it would be under a normal or natural condition of the cells and nerves, unaffected by any kind of repetition.

9. The educational implications are many and vital. The pupil in the school room is subject to many impressions daily, from the air, the light, the temperature, the room, companions and teacher. Every one in some way leaves its effect, its trace in the human organism. The nature of this trace, or effect, depends upon the nature of the impression received from the environment. If the impression is evil, the effect will be the same; if the impression is good, the effect

will be good. These effects are often small, but they are many and vitally important, and in the future, when they are counted in as determining factors in the creation of a proper environment for the pupil, they will form the grounds for many reforms.

10. Over class instruction, private instruction may have the following advantages: (a) An opportunity to advance in accordance with the strength or ability of the pupil; (b) an opportunity to receive more than the usual amount of individual instruction.

It may have the following disadvantages: (a) No opportunity to hear other pupils recite, and to gather thereby their views and mode of expression. (b) The absence of stimulus to emulation always afforded by other pupils, and the absence of any opportunity for the pupil to compare himself with others.

PHYSIOLOGY AND SCIENTIFIC TEMPERANCE.

1. What are the functions of the external and middle portions of the ear?
2. What is the source of the heat of the body?
3. What are the functions of the kidneys?
4. What is meant by tidal air? Residual air? Reserve air?
5. What are the uses of the saliva?
b. Which is the most important use?
6. Describe the structure of an artery. A vein.
7. What constitutes the lymphatic system?
8. What are the characteristics of the alcoholic appetite as contrasted with the appetite for foods generally?
9. How does the effect of an anaesthetic differ from the effect of a narcotic? Name an anaesthetic. A narcotic.

Answers.

1. The external ear receives the waves of sound, and conducts them into the auditory canal, which leads them against the membrana tympani.

The membrana tympani receives the waves of sound and, being thrown into vibrations, it gives the chain of bones the same movement; the bones transmit the wave-vibration across the tympanic cavity to the membrane in the fenestra ovalis and give to this membrane the vibratory movement. This closes the function of the middle ear.

Continuing:—this membrane puts the lymph-like fluid of the labyrinth into vibration; this fluid, assisted by the otoliths, which are thrown against the nerve filaments during the vibrations, gives the vibratory impression to the nerve filaments floating in the lymph; these carry the im-

pressions to the auditory nerve, which conducts them to the brain, and we are conscious of audition.

2. The main source of the heat of the body is the oxidations occurring in the tissue-cells. (Read pages 203 and 204 of the text-book.)

3. The kidneys have the special function of excreting a waste product of the body called urea. They also excrete certain poisons developed from imperfectly oxidized albumin; and, a large amount of water daily to wash away the excreted matter.

4. After the fullest possible inspiration, the lungs contain about 330 cubic inches of air. After the fullest possible expiration the lungs will contain about 100 cubic inches of air. So it is possible, by strong effort to inhale and exhale about 230 cubic inches of air. This is called the vital capacity of the lungs, and is the breathing power which can be used in violent exercise. But in quiet breathing only about 30 cubic inches of air are inhaled. This is called tidal air. By an effort about 100 cubic inches of air can be inhaled in addition to the tidal air. This is called the complementary air. By a forced expiration the lungs can expel about 100 cubic inches of air more than in quiet breathing. This is called the reserve or supplemental air. There will still be left 100 cubic inches of air, called residual air.

5. The uses of the saliva are (a) to moisten the food preparatory to swallowing, and (b) to change some of the starch of the food to sugar. It does the latter, which is its most important function, by aid of a ferment which it contains.

6. See text-book, pages 80 and 81 for complete answer. The walls of the arteries are strong and firm, retaining their shape as tubes when empty. The walls of the veins are soft and flabby, and will collapse and flatten when empty.

7. The lymphatic system consists of a set of tubes distributed all over the body and gradually uniting into larger tubes, and these finally into two main trunks, the lymphatic duct and the thoracic duct. These tubes have numerous valves, all opening toward the heart to prevent the backward flow of the lymph. At irregular intervals the lymphatics open into small bag-like bodies called glands or nodes.

8. The natural appetite is the natural feeling of hunger or thirst. The appetite for food is constant in degree and does not increase upon gratifying it. "If we eat a sufficient amount of bread to-day, we do not crave a larger amount to-morrow." But the appetite for alcohol grows;

the law of its use is the law of increase until the terrible alcohol habit is formed.

9. An anesthetic is that which produces anesthesia, or loss of sensation, especially of feeling; as chloroform, ether, chloral hydrate, etc. They are used in surgical operations, in pulling teeth, etc.

A narcotic is a substance, which, in medicinal doses, relieves pain and produces sleep; in poisonous doses, it produces stupor, coma, and convulsions; in larger doses, death. Opium, stramonium and belladonna are the chief narcotics, of which opium is the most typical.

GEOGRAPHY.

(Any eight, not omitting 10.)

1. How do you account for the very great range of temperature from winter cold to summer heat in the northern interior regions of the United States?
2. Discuss trade and trade routes of India.
3. How are each of the following governed: New Mexico, Alaska, India, Cuba, Cape Colony?
4. What products are shipped from Puerto Rico to the United States?
5. What important South American boundary dispute was settled by arbitration within the last year?
6. What are the large subdivisions of China?
7. Discuss the trade of the Mediterranean.
8. Where are the following: Korea, Klondyke, Delagoa Bay, San Juan?
9. Write a few lines on the occupations of the people of Belgium.
10. Trace the world ridge or primary highland through the various continents.

Answers.

1. The northern interior regions of the United States form an elevated interior plain, far from the equable influence of the sea, and covered by relatively dry air, through which the sun's heat falls readily to the earth in summer, while in winter, radiation proceeds with equal ease.

2. The chief imports of India are cotton goods and hardware. The chief exports are raw cotton, wheat, rice, opium, indigo, jute, and tea. The chief trade route is across the Arabian Sea, and through the Red Sea and the Mediterranean Sea. Most of this trade is for the British Isles. Another trade route is to Australia, another to Cape Colony, and another eastward to the East Indies and to Hong Kong.

3. New Mexico is governed as a territory. The governor and the administrative and judicial officers are appointed by the president, but a territorial legislature is entrusted with limited powers, subject to the approval of congress. A

territory may elect one delegate to a seat in the House of Representatives. He may speak on subjects in which his territory is interested, but he can not vote.

Alaska is an unorganized territory of the United States; it remained without the form of civil government until 1884, when the Act of May 17, provided for the appointment of a governor and other officers, and also a district court. It is at present ruled by a governor and several commissioners appointed by the federal government at Washington. Sitka is the capital.

Since 1858, the government of British India has been vested in the crown, which appoints a viceroy or governor-general for the whole country, and a council of fifteen members who assist in legislation. The revenue is mainly derived from a land-tax, the sale of opium (which is a government monopoly and an important export to China), and a tax on salt.

Since the war with Spain the government of Cuba has been controlled by the United States, through a governor appointed by the President.

Cape Colony, since 1806, has been controlled by Great Britain. The government is administered by a Governor, an Executive and Legislative Council, and House of Assembly.

4. Coffee, tobacco and sugar.

5. The boundary between Venezuela and British Guiana.

6. The large subdivisions of the Chinese Empire are Manchuria, Mongolia, Eastern Turkestan, Tibet, and China proper.

7. The trade of the Mediterranean is carried on largely among the cities of Cadiz, Marseilles, Rome, Naples, Venice, Constantinople, Smyrna, Suez, Alexandria, Tripoli, Tunis, Algiers, and Morocco. The products of North Africa, such as wool, gum, dates, cork and cotton are carried to various ports on northern Europe, in return for wine, fruits, silk, carpets, laces, olive oil, tobacco, hardware, leather, millinery goods and jewelry.

8. Korea is an Asiatic peninsula between the Yellow Sea and Japan Sea.

"Klondyke" is the gold region in British America, and is near the Alaskan boundary line.

Delagoa Bay is on the east coast of Portuguese East Africa, near the city of Lourenco Marquez.

San Juan (of war note) is in Cuba, 42 miles W. N. W. of Santiago de Cuba.

9. The density of the population of Belgium has resulted in the tillable land being divided into many small holdings, thereby causing many

to follow the occupation of gardening. Other occupations are mining and manufacturing.

10. The world ridge, or primary highland, is the horseshoe-like chain of highlands beginning at the southern end of the Andes Mountains and extending northward through South America, and along the highland of western North America, and over into Eurasia, and southward into Africa.

READING.

(Based on the general field of Reading.)

(Any five.)

1. Underscore the emphatic words in the following:
"What stronger breast-plate than a heart untainted! Thrice is he armed that hath his quarrel just! and he but naked, though locked up in steel, whose conscience with injustice is corrupted."
2. What is the proper pronunciation of *a* and *the* in reading?
3. What is the difference between enunciation and pronunciation?
4. Can a pupil properly read a selection, the meaning of which he does not understand?
5. How do you express irony and sarcasm in reading?
6. What tone befits prayer—as the Lord's Prayer?
7. Read the following to the Superintendent:
"Beauty is but a vain, a fleeting good;
A shining gloss that fadeth suddenly;
A flower that dies almost in the bud;
A brittle glass that breaketh presently;
A fleeting good, a glass, a gloss, a flower,
Lost, faded, broken, dead within an hour."

(Based on "How to Teach Reading.")

(Any five.)

1. What is meant by the "atmosphere" of a selection?
2. In what part of the following is the "central idea"?—
"There's not a flower that decks the vale,
There's not a beam that lights the mountain,
There's not a shrub that scents the gale,
There's not a wind that stirs the fountain,
There's not a hue that paints the rose,
There's not a leaf around us lying
But in its use or beauty showing
God's love to us, and love undying."
3. What is meant by "succession of ideas" in the selection to be read?
4. In what "time" and "pitch" should a parenthetical clause be read?
5. What is meant by "values," as applied to reading?
6. How do you distinguish between conscious slow time-rate, on the part of the reader, and mere hesitancy?
7. What do you find to be the principal obstacles to be overcome in teaching the pupil to read well?
8. What is the time-rate for the following, and why?—
"How amiable are thy tabernacles O Lord of Hosts! My soul longeth, yea, even fainteth for the courts of the Lord. My heart and my flesh crieth out for the living God."

Answers.

(Based on General Field of Reading.)

1. What stronger breast-plate than a heart untainted! Thrice is he armed that hath his quarrel just! and he but naked, though locked up in steel, whose conscience with injustice is corrupted.

2. The pronunciation of *a* is "long a"; of *the* is "thee" when emphatic or alone; the long sound of *e* is obscure before a vowel; and the whole word is, by some, made obscure in reading. (See dictionary.)

3. Enunciation is the articulate utterance of vocal sounds, so as to make them distinctly audible. Pronunciation is the articulate utterance of words or syllables. The former has reference to the clear utterance of the distinct vocal sounds; the latter to the correct utterance of the words or syllables.

4. He can not unless he is led to do so by imitation.

5. Abrupt stress is sometimes given to the first part of the emphatic vowel (as in command, anger and energetic statement), and it is called "radical" or initial stress. It is sometimes given to the last part of the emphatic vowel (as in impatience, distress, painful anxiety, revenge, defiance, etc.), and is called "vanishing" or final stress.

Sometimes these two kinds of abrupt stress come together on the same emphatic syllables. This compound abrupt stress is the characteristic vocal element which expresses irony, scorn or sarcasm.

6. The orotund that is natural.

(Based on "How to Teach Reading.")

1. The "atmosphere" of a selection "is that sympathetic quality of voice that manifests the spirit of literature."

2. In the last two lines.

3. It means that every complete sentence or paragraph is made up of ideas in succession, each contributing its part to the complete meaning or to the main idea of the sentence or paragraph. Keeping the main idea in view and attending carefully to the subordinate ideas have an important bearing upon oral expression.

4. In slow time and in low pitch.

5. Values are the different forms of expression that embody the changes of thought and emotion. The consideration of them is important on account

of their bearing upon the modulation of the vocal expression.

6. The conscious slow time-rate, on the part of the reader will occur at the proper places while mere hesitancy is as likely to occur in the wrong place as in the right place.

7. (a) Poor vocal expression. (b) Disinclination to make proper effort. (c) Lack of interest in the study.

8. The time rate is slow because the meaning is deep, lofty and dignified. The imagination and the emotion must have opportunity for full development.

HISTORY.

(Any five.)

1. In what way did Brazil become a Portuguese dependency?
2. State the main difference in institutional life between the Northern and Southern English Colonies.
3. What was the "Boston Port Bill," and of what act was it a consequence?
4. What were the "Alien and Sedition Acts"? When enacted, and why?
5. What were the terms of the Treaty of Peace made with Mexico in 1848?
6. What was the first military event of the Civil War?
7. What were the causes of the Spanish-American War? The results?

Answers.

1. Brazil became a Portuguese dependency through the voyage of Pedro Alvarez Cabral, who was sent out by his monarch to follow the course of Vasco de Gama in the East. He was driven so far from his track by adverse winds that he reached the Brazilian coast (April 24, 1500), and anchored in Porto Seguro (16° S. Lat.) on Good Friday. On Easter Day an altar was erected, mass celebrated in the presence of the natives, the country declared an apauage of Portugal and a stone cross erected in commemoration of the event.

2. The main differences in institutional life between the Northern and Southern English Colonies were: (a) The school as a general institution did not flourish among the Southern Colonies as it did among the Northern Colonies. (b) As time passed by, among the Southern Colonies, power and opportunity gradually passed into the hands of the planters. As their work could be done by unskilled labor, and as the laborer must endure great heat, negro slavery became to these planters a very desirable institution. This was not the condition among the Northern Colonies.

3. The Boston Port Bill, which shut the port of Boston to trade and commerce, forbade ships to come in or go out, and moved the custom house to Marblehead, was passed in consequence of the destruction of the tea in Boston harbor.

4. (See text-book p. 200). The Sedition Act was passed because of the abuse heaped upon the administration by several American newspapers which were edited by foreigners. The Alien Law was passed because certain French residents were suspected of plotting to overthrow the government. This law was never enforced, and remained a dead letter.

5. By its terms Mexico ceded to us the territory of California and New Mexico, for which we agreed to pay \$15,000,000. The treaty made the Rio Grande the western boundary of Texas and the Gila River the northern boundary of Mexico.

6. There are different views as to what event should be called the first military event of the Civil War. The South claims that two military events by the forces acting for the Union preceded their first one, (a) the removal by Major Anderson of his soldiers from the shore batteries to Fort Sumter as a better base of operations for defending himself; (b) the attempt by the Government to revictual the fort as the supply of provisions was fast failing. The North claims that the bombardment of Fort Sumter by Gen. Beauregard was the first military event of the war. Because this event was bloodless one historian calls this act more a "political than a military combat."

7. The causes of the Spanish-American war were as follows:

(a) The intervention by the United States Government between the government of Spain and the people of Cuba. The intervention was in the cause of humanity to put an end to barbarities, bloodshed, starvation, and horrible miseries existing in Cuba, "right at our door." The intervention was also justified by the very serious injury to the commerce, trade, and business of our people; by the wanton destruction of property and devastation of the island; and by the constant menace to our peace by this condition of affairs.

(b) The destruction of the United States battleship *Maine*, with two hundred and sixty of its officers and crew, while on a friendly visit to the harbor of Havana.

(c) The resolutions by the United States Congress embodying the determination to free Cuba.

(d) The withdrawal of the Spanish minister from Washington and of the American minister from Madrid, and the call by President McKinley for 125,000 volunteers.

GRAMMAR.

(Any seven, not omitting 8th, 9th and 10th.)

"There is strong reason to suspect that some able Whig politicians, who thought it dangerous to relax, at that moment, the laws against political offenses, but who could not, without incurring the charge of inconsistency, declare themselves adverse to relaxation, had conceived a hope that they might, by fomenting the dispute about the court of the lord high steward, defer for at least a year the passage of a bill which they disliked and yet could not decently oppose."—Macaulay.

- (a) Name the principal clause in the above.
- (b) Name one which is an objective clause and one which is an adjective clause.
- Under-score with one line the subjects and with two lines the predicates of the subordinate clauses.
- Give all the modifiers of (a) "politicians;" (b) "could declare;" (c) "might defer."
- State what each of the following modifies: (a) "dangerous;" (b) "adverse;" (c) "high steward;" (d) "at least;" (e) "which."
- Give syntax (case and reason) of (a) "it;" (b) "laws;" (c) "change;" (d) "themselves;" (e) "passing."
- Select the infinitives and participles and state what office each performs.
- Select three verbs that are in different tenses and give the tense of each.
- Is it expedient to devise erroneous forms of false syntax for pupils to consider?
How far would you carry the correction of wrongly coined and misused words and improperly constructed sentences?
- In what order should the following parts of speech be taught: preposition, pronoun, verb, participle, noun? Why?
- Write 15 or 20 lines on one of the following subjects in some such form as you would place before a class of pupils as a model for their guidance:
(a) The School-master in "The Deserted Village."
(b) Inventions—Past and Future.
(c) The Inauguration of a President.

Answers.

- (a) There is a strong reason to suspect.
(b) *that some able Whig politicians had conceived a hope, etc.*, is an objective clause, object of "to suspect." (c) *that they might defer the passage of a bill* is an adjective clause modifying "hope," as an appositive. The two relative clauses modifying "politicians" are also adjective.
- Subjects.** **Predicates.**
(a) politicians . . . *had conceived.*
(b) who . . . *thought.*
(c) who . . . *could . . . declare.*

(d) they . . . *might . . . defer.*

(e) they . . . *disliked*, and *could oppose.*

3. (a) Some; able; Whig; and the compound relative clause "who thought, etc., but who could not, etc., . . . relaxation." (b) not; themselves; and "without incurring, etc." (c) passage; and "by fomenting the dispute, etc."

4. (a) *dangerous* modifies *it*; and *it* stands for the infinitive phrase *to relax*, etc.

(b) *adverse* modifies *themselves*.

(c) *high steward* with the word "lord" constitutes the whole title; *high steward* may be said to modify "lord" by way of explanation of the nature of the *lord*.

(d) *at least* modifies *a* (= one).

(e) *which* is an objective modifier of *disliked* and *could . . . oppose.*

5. (a) *it* is in the objective case by reason of the influence of the transitive verb *thought*; (b) *laws* is the object of *relax*; (c) *charge* is the object of *incurring*; (d) *themselves* is in the objective case by reason of the influence of the transitive verb *could declare*; (e) *passage* is the object of *defer*.

6. (a) *to suspect* has an adjective office, modifying *reason*.

(b) *to relax* is in apposition with *it*.

(c) *incurring* is the object of the preposition *without*.

(d) *fomenting* is the object of the preposition *by*.

7. (a) *is* is in the present tense; (b) *had conceived* is in the past perfect tense; (c) *thought* is in the past tense.

8. It is not, for as far as possible the false syntax should be rooted out by viewing and practicing correct syntax.

9. Those that are made in the regular school work should all be corrected and the correct forms inserted; if a great number occur, special attention, time, effort and care must be concentrated upon the driving of them out of our speech and work, until their occurrence is rare.

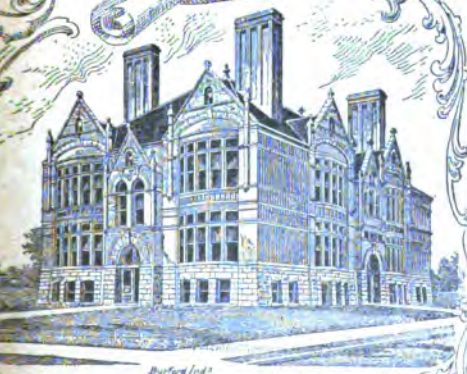
10. *First*, the *noun*, because it is the name of something we can perceive or talk about. *Second*, the *verb*, because action is the natural idea that is connected with an object. *Third*, the *pronoun*, to be used instead of the noun, in certain instances; it does not add to the understanding of the sentence, but extends its limitations. *Fourth*, the *preposition*, that small phrases may be built to the sentence frame-work already mastered, embodying relations. *Fifth*, the *participle*, which should come after the verb, because it is a form of the verb; and it is not so needful to the learner in his beginning, as the pronoun or the preposition.

Indiana School Journal

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INDIANA SCHOOL JOURNAL

VOL. XLV.

JULY, 1900.

NUMBER 7.

INTERDEPENDENCE OF INTEREST AND ATTENTION.

E. B. BRYAN, ASSOCIATE PROFESSOR OF PEDAGOGY, INDIANA UNIVERSITY.

In recent years no subject has received so much attention in educational circles as that of interest. With many it is the center of the entire process of education. The Herbartian psychology and pedagogy so widely represented in this country have emphasized the importance of interest, and the movement known as child study has brought out equally emphatically the need of directing our work along the lines of the natural interests of the child. So far as is known by the writer every thing that has been said by both these schools of pedagogy is true and worthy of attention. Every one knows that close and continued attention are conditioned by the amount of genuine interest one has in the subject, and so it is considered good pedagogy for the teacher to observe and study her children enough to find out what are the primary interests at different ages and of different children. It can be seen at once that if this principle were carried out in the extreme it would mean individual teaching for every child. But there is thought to be great good derived by the child from work in the class. Perhaps not quite so much Latin or arithmetic will be gotten as would be obtained under the individual plan, but the good derived from the class associations, the give and take, the performance of tasks in the presence of one's associates surely has as great value for the child as the few additional chapters in

Latin or pages in arithmetic which he might have mastered working alone. It would be rash to suppose that the interests of all the members of a class or even of any two members are identical, however well the classification be made. This means at least two things. In the first place classification should be as flexible as possible that the child's natural interest will not be entirely crushed out of him. In the second place if the child derives a benefit from class work to be gotten in no other way, he must apply himself at times to work in which he does not find a very great interest. In the child's play it has been argued, and justly so, I think, that the spontaneity of the child should be recognized. The play ideal for young children is unhampered, unorganized, undirected, spontaneous play. Yet every one knows that, however gratifying it is to the country boy to throw stones in all directions, he can not do this when he moves into the city. But this does not militate against the doctrine of interest in itself. If it is true that the best thing for my child is to live a perfectly free, spontaneous, uncurbed life, and if such living can not be tolerated in the city, it becomes at once imperative to leave the city. But here comes in the interests of parents and older brothers and sisters, which may be just as natural as those of the younger ones and which can be gratified only by city life. So, while the doctrine of interest is well

worthy the attention which it receives, and while it is a splendid ideal too little realized, it is very doubtful whether it can stand alone as the center of educational theory and practice. Let us turn to another phase of the subject which has received very little attention but which is fraught with as much pedagogical significance as any fact of modern pedagogy. It is this: Interest results from attention.

Every educational psychology shows how it is that we attend to whatever is interesting, but where is to be found a statement of the equally true and valuable fact that we are apt to become interested in whatever we attend to. It is in the intellectual world something as it is in the physical world. A little time spent in introspection and in questioning your friends will reveal the fact that the food stuff that one has learned to eat is the one for which he has the greatest appetite and which he craves most. The person for whom bananas were nauseating but who persisted in eating them is the one most apt to be a banana fiend. Ask the eaters of celery and parsnips. Few men addicted to the use of tobacco escaped the first sickness and enjoyed the taste of it from the start. In short, the things we like best are apt to be the things that we have learned to like. Analogously we may learn to like things mentally for which we seemed to have no natural mental appetite. It is no uncommon thing to hear a person say, "There was a time when I disliked grammar or arithmetic or history or Latin, but now it is my favorite study. I not only enjoy it most, but find that I can accomplish more in it than any other line of work." One illustration I have in mind is that of a young man who studied psychology four years, doing good work but not having his chief interest in

it. He was asked to teach the subject and went at it in a way hitherto unknown to him. He held himself right to it. He looked at it from this standpoint and that. He used his pedagogical skill in presenting it to his students. Thus he got a grasp of the subject to be gotten only by long sustained work. With this there came a new and heretofore unknown interest in the subject, so that when he entered the university he elected the department of psychology for his major and made a very fine record as a student. It may be said that if he had spent these years in the pursuit of something in which he had an interest from the beginning he would have accomplished more, but I have his word for it that there is no subject that has for him greater fascination and his record shows that his work in this line was as efficient as in any other.

It is very important that we do not forget that we are apt to become deeply interested in the thing to which we attend. This is true of evil as well as good things, and is of prime significance in the field of morals.

There has been a tendency of late towards a soft pedagogy. The cry is, "Find out what the child likes and let him have it." "The child knows better what he wants and needs than do the parents and teachers." "Discover the child's appetite and then feed it." We seem to have forgotten that the very life of the child for the first years is conditioned by his inability to have everything for which he cries; that although the child knows best what he wants he does not know his need so well as the wise parent—and it is a cheap and reckless thing to say that he does. Any one with mother wit knows it isn't so. And we forget that not only does the appetite determine what the food should be, but the food determines very

largely what the appetite will be. The doctrine of spontaneity, of following out the natural interest of the pupil, should play an important role in all phases of education, but it should have most exclusive sway during the first seven or eight years of life. This is the time when weaknesses due to heredity are most apt to crop out as a result of overwork, under nutrition, etc. It is a time when voluntary attention is at a minimum, when the muscular and nervous systems are very unstable. The life capital and conditions are such that it would seem a mistake to try to induce interests through attention to what at first is comparatively uninteresting. Neurologists tell us that from about nine till about twelve the nervous system is comparatively stable and is much more exempt from hereditary diseases. We also know that the muscular system is capable of functioning pretty accurately; that the liability to fatigue due to unproportionate development of the vascular and muscular systems is not so great as heretofore; and that children are freer from disease and death at this time than they have ever been before or will ever be again, the girls reaching their minimum susceptibility at eleven and the boys at twelve. This is the best time in the life of the individual for drill work, for mastering the fundamentals, whether they are intrinsically interesting or not.

As far as possible work on these more or less uninteresting but fundamental things should be associated with things that are interesting. I believe that the facts on child life up to date warrant the statement that up to about eight years of age—the time varies with individuals—within the limits of right, the child's spontaneity should be unbridled and his natural interests gratified regardless of the amount of information he may get. This in no time to force attention, and the psychological truth that the teacher should keep uppermost in mind is that children attend to those things which have a natural interest for them. On the other hand, while we should never ignore the dependence of interest upon attention, the constitution of the world is such that the child will have to attend to many things that are not intrinsically interesting and the constitution of the child from about nine to twelve is such that he can be trained into the habit of doing this with but little danger of damage. Our pedagogy will be less soft and much more effective if we bear in mind in this stage that the child is apt to become permanently interested in whatever he attends to. The three or four years preceding pubescence should be preeminently years of hard work, drill, repetition and if need be drudgery, but let the work be as interesting as is consistent with these things.

MEANS IN TEACHING GRAMMAR.

GEORGE W. NEET, PROFESSOR PEDAGOGY, N. I. NORMAL, VALPARAISO, IND.

Means, or devices, in any kind of teaching, are of great importance, and are worthy of the most careful consideration, because, whether the desired end is reached in teaching depends always to a greater or less extent upon the means em-

ployed. But the means employed in teaching grammar, together with the way they are employed is second in importance to no other question in the study of method in grammar. The following are all properly to be considered as means in

grammar teaching: 1. Assignments. 2. Class discussions. 3. Parsing. 4. Analysis. 5. Diagramming. 6. Text-books. These all have their legitimate uses in teaching grammar and are all subject to abuses. Each is worth special study.

There is no other device in the hands of the teacher that can be used with so much effect in making his grammar teaching a success as his assignments. No other device furnishes better opportunity for the display of tact and skill in grammar teaching. Every assignment in any subject should place before the class a definite problem for solution and it must be so stated that the learner will see just what the problem is. While this is true in every subject, it applies with unusual force in grammar. Clear, definite, logical assignments bring clear, definite logical thinking; and systematic, energetic habits of study. These economize time and energy and in every way facilitate success. On the other hand, loose, indefinite, general assignments bring slovenly habits of thinking; vague, feeble, uninteresting recitations; and bad habits of study. As a rule it can be depended upon that one will get just about as good recitations as are good his assignments. The teacher, by skillful assignments, can lead the pupils to think almost anything desired.

The assignments in grammar should always be in harmony with the principle that form in the sentence is determined by the thought underlying it, and that meaning is the strongest bond of association with form. Thus the assignments should lead the learner to see the form as determined from the thought side. The assignment in grammar must lead the learner to do his own thinking.

For instance if the teacher should give the following assignment to a class: "Define the possessive modifier; also, the ap-

positive modifier. How are they alike and different in idea?" he would be likely to get one of two results. First, the students would go to some text-book and commit to memory the definitions found there, and make a trial at comparison. Secondly, they would find no inherent interest in the work, and, after a feeble effort, would give it up without sufficient preparation. As a matter of fact, in a class of any considerable size, a teacher would get both results, neither of which is good.

What would be gained by the following: 1. The "nation's" emblem is an eagle. 2. "William's" effort was rewarded. 3. "His" honesty was mentioned. 4. Henry the "poet" is loved. 5. Dewey the "psychologist" is a clear thinker. 6. He "himself" told me so.

On the basis of what they express, what kind of terms are the quoted words? What kind of terms do they modify? What difference between those in 1, 2 and 3, and those in 4, 5 and 6? Those in 1, 2 and 3 are called what kind of modifiers? Those in 4, 5 and 6 are called what kind of modifiers? Compare and contrast the appositive modifier with the possessive modifier as to essential ideas. Define the possessive modifier; also, the appositive modifier.

It is so evident that class discussions are a necessity as a device in teaching grammar that no further comment is needed on this phase of the study. These discussions have the following purposes: 1. To test the learner on his preparation and understanding of the problems given in the assignment. 2. To supplement the knowledge got in the preparation of the lesson. 3. To give right habits of study. 4. To approve, and stimulate the learner in his work.

In the class discussion is where the points given in the assignment are finally

worked out. It often happens that a student, after making an honest effort, fails to completely work out a point in the assignment. Here the teacher has a chance by questions, illustrations, and directions to lead the student to think out the point for himself. The teacher's opportunities for manifesting rare tact and skill in class discussions are unlimited. Indeed, teachers are usually regarded as successful or unsuccessful according to their skill in conducting class discussions. But successful discussions are not isolated things in teaching. Every circumstance that goes to make school a success or a failure conditions class discussions.

The text-book is relegated to its proper importance in grammar teaching when it is considered as a mere device. In the way in which grammar is frequently taught in school the text-book is given a much more important place in the minds of both teacher and pupils than it should have. So much emphasis is placed upon the text that students get the impression that grammar as a subject is contained between the lids of the book. On the other hand the student should see that the text-book merely contains what some one has said on the subject of grammar, and that the subject would still truly exist, if every text-book were by some means simultaneously destroyed. The text-book is commonly given undue importance in teaching grammar.

It is an abuse of the text-book as a device in grammar teaching to have the learner commit to memory the various definitions, principles and rules usually found in such books. To ask the student to master certain sections of the text, and demand verbal reproduction of it in the recitation is bad in the extreme in teaching English grammar.

There are, at any rate, two legitimate

uses of the text-book as a device in teaching grammar. 1. If it contains a good collection of sentences, these may be used advantageously in the study of particulars in the various exercises where sentences are needed. 2. After students have worked out well any phase of grammar inductively, they may with much profit go to the text-book and study it carefully on the same points. New suggestions will thus be studied with interest and profit, and that which the student has discovered for himself will be verified and fixed firmly in mind.

In teaching, as in all other work, things tend to go by extremes. In accord with this idea, there was a time in grammar teaching when it consisted almost wholly of parsing. The parts of speech, together with their grammatical properties, were studied briefly and in a general way from the text-book, then orders, or schemes for parsing were committed to memory. The remainder of the work was parsing, the parsing of everything, prose, poetry, figures and signs, arithmetical, algebraic and geometrical, and even pictures. It finally came to be seen that much of this work was almost wholly valueless, and then came the reaction against it. So in many places at present there is a tendency to do away with parsing altogether. This is the other extreme.

There is a place for parsing in teaching grammar, where it may be used with profit. When students have worked through inductively any part of speech and its properties, their minds tend perfectly naturally to return to particulars to identify them and verify its conclusions. But this is just what the mind does in parsing.

For instance, if the students have worked through the noun, the pronoun, and their grammatical properties, gender,

number, person, and case, a lesson of the following kind would certainly be helpful, interesting, and since in accord with what the mind naturally tends to do, pedagogical.

Point out the substantive words, classify them, and give the gender, person, number, and case of each, with reasons, in the following sentences:

1. There are four Smiths in school.
2. I am he of whom you spoke yesterday.
3. John said to James, "I thought I heard you say to William, 'I have wounded myself.'"
4. The sun shows his power and glory.
5. Every thought, emotion or impulse one has literally burns some of his brain substance.

Parsing as a device in grammar is liable to abuse. So much emphasis is placed upon it that it becomes the end instead of a means, and to be able to parse well is taken to be the highest good in grammar work. And again, parsing often degenerates into the veriest formalism. A set order of parsing must be gone through with every word, whether it is worth while to do so or not. In the sentence, He has grown to be a man, the word man offers but one point of grammatical importance to any one who knows just a little grammar. So, to have the student go through the regulation "noun, common, class, masculine gender, third person, singular number, nominative case, rule, etc.," is not only formal, but useless and silly. It is better by far to go directly to the problem the word involves and stop when it is solved.

Analysis is a legitimate device in grammar. It has the same purposes in general that parsing has. That is to say, it is val-

uable work for the following reasons: 1. By it the mind verifies the general notions got in the inductive work. 2. By it the mind fixes firmly with itself the definitions, principles and rules got in the inductive work.

Analyzing is not so liable to abuse as parsing, and yet it is liable to similar abuse. It, too, may be made the end of grammar work instead of a means; and it, too, may degenerate into the veriest formalism.

Diagramming, a very popular device in grammar teaching, is, to say the most for it, of very doubtful value. It is at the best a sort of kindergarten device, helpful to those who have not the ability to see the relations in the sentence without picturing it for them. There is good reason for thinking that, instead of helping students to grow in skill in seeing the fine shades of relation in the sentence, it actually retards this growth. Diagrams reveal only the grosser relations in the sentence; they utterly fail to reveal the finer points in the sentence that close, accurate grammar work must bring out.

The English language certainly is a medium for communicating thought, clear enough that the relations in it may be grasped without mechanically mutilating it and "hanging these mutilated remains on diagrams."

For students who have reached a stage of development that fits them for grammar work it can hardly be proved satisfactorily that diagramming is a good exercise.

From a strictly pedagogical point of view, diagramming in grammar is an exceedingly poor device in grammar teaching.

SCHOOL MANAGEMENT.

SUPT. J. H. TOMLIN.

QUALIFICATIONS OF THE TEACHER.

The acquired qualifications of the teacher may be considered under three heads, as follows:

(a) A knowledge of the branches to be taught.

(b) A knowledge of mind or psychology.

(c) A knowledge of method.

Scholastic training, or a knowledge of the subjects to be taught, has always been recognized as an important part of the necessary equipment of the teacher. This phase of the teacher's training has received a vast amount of emphasis. Perhaps not more than the case warrants, but certainly much more than the other phases of the teacher's preparation. It seems fair to say that scholastic training is the first requisite in the preparation for the work. It is fundamental to all other preparation. Instruction can never go beyond the limits of one's knowledge.

Professional training is built upon a scholastic foundation. No professional training would be valuable unless deeply rooted in scholarship. Indeed, it is quite impractical to think of professional training except in its relation to knowledge. The organization of a branch of study for teaching purposes, its place in the curriculum, its relation to other branches, its educational value, its relative importance, can be known only to the professional side of teaching through scholastic acquirements. To neglect scholastic preparation is fatal to all other effort at preparation, as no rational advancement can be made in the teaching processes without knowledge, and a professional training could not be built upon nothing. The

very nature of the whole problem of preparation makes scholastic training necessary and prerequisite. There is no escaping it. It is an absolute necessity.

Assuming that a knowledge of the branches has been acquired, the question then turns to the more professional phase of the instruction that the teacher seeks to give. All rational teaching is based upon psychology. Teaching as a science is determined by laws and principles of mind growth. A knowledge of these principles and laws and of the being to be taught is just as essential as a knowledge of the subject matter. To neglect this phase of the preparation is to make instruction haphazard and aimless. The peddling of data, the reiteration of textbook facts, do not mean teaching, nor do these processes develop power.

The mind grows by what it feeds upon, and it requires different kinds of diet at the various stages of its growth. Character, kind, amount and adaptation of work can be determined only by a knowledge of the child mind as to the laws of its growth.

A great deal of the work of untrained teachers is comparatively worthless because it is not adapted to the needs and mental capacity of the pupil. If the amount of energy wasted yearly by unprofessional teaching could be turned into proper channels and into rational processes of learning, it would almost revolutionize the work of our public schools. In late years, professional training has been given great impetus, and it has not yet received the proper amount of encouragement.

When it shall stand as one of the three great pillars of the teacher's equipment, it will have found its proper significance in the scheme of education.

A knowledge of method is an important factor in the teacher's outfit. Method is the movement of the mind through the processes of study and acquisition. It becomes special when applied to a particular subject. As, for example, the movement of the mind through number is called method in number. The movement through reading is called method in reading, etc. Method often takes its name from some teacher or author, and quite frequently from some device used to induce mental operations. As, for instance, the Grube method of teaching number, the Socratic method of asking questions, the phonic method of teaching reading, the object method of teaching science. These are all useful in their way and they suggest the mental processes used in the development of subjects, but they are no part of method. Device, however apt and appropriate it may be, is different from method. Device may induce or cause a certain movement of the mind, but aside from that it has no relation to method. Method is determined by the nature and laws of the mind's growth and by the nature of the subject, especially by the science of the subject.

When the facts of a subject are arranged in logical order, they constitute a science. A true science corresponds to the mental processes which produced it. The laws of the mind's growth must, therefore, necessarily determine its method. Perhaps the most fundamental principle in determining the mind's movement is the law of apperception. That is, the known is the basis for the acquisition of the unknown, or the new is

acquired only by means of the old. It, therefore, follows that the arrangement of the facts and data of a subject of study and all devices rest upon logical relations and upon the laws of mind activity and growth. True method is true to nature. It seeks logical arrangement and essential relations of parts, but the departure in a given subject is liable to differ materially with different classes and with different individuals. All do not build upon the same foundations. Experiences differ and mental capacities vary. Method can never be absolute. It is always relative, relative to the knowledge and experiences of the mind, relative to the laws which govern it. Method is common to a class in so far as knowledge and experiences are common. It is individual and special in so far as knowledge and experiences differ. The law of adaptation will always be an important factor in determining the pursued.

To properly methodize a subject is to arrange the data of that subject in harmony with the laws of mind growth and relatively to the knowledge and experiences of the mind. The object or purpose kept in view in teaching a given subject also has great influence in determining the movement of the mind or method. If the purpose is moral one, for instance, that fact alone largely determines the material to be selected and used as well as its arrangement.

Rational method is, perhaps, the highest mark of the professional teacher. What the governors are to the steam engine, true method is to the teaching process. It does even more than regulate the movement, it economizes force and time. It is the antidote to difficulties and does more than any other thing toward the solution of the problem of interest.

SCHOOL HYGIENE.

W. H. FOREMAN, SUPERINTENDENT PETERSBURG SCHOOLS.

SOME SCHOOL CONDITIONS THAT AFFECT THE CHILD'S PHYSICAL NATURE.

Seating.—Seats and desks should be graded according to the sizes of pupils, not from ages or standing in class. Health and physical vitality are worth more than "class unity." Improper seating may, and often does, produce spinal curvature, stooping, nearsightedness, deformed limbs and nervousness, which not only reduce physical vitality and predispose to disease, but also through bodily discomfort detract from the best mental effort.

The desk should slightly slope towards the pupil, the edge nearest the pupil being about one inch higher than his elbows, and slightly overlapping the edge of the seat. The seat should be high enough to allow the feet to easily rest flat on the floor, broad enough from back to front to support the whole thigh, and slightly hollowed to fit the tuberosities and ascending rami of the ischia. The backs should be curved sufficiently to fit the natural curvature of the spine and high enough to give support to the upper and lower spine.

Water Supply.—The supply of water to the children, one of the most essential and important of school regulations, is too often passed by with only a passing consideration. Teachers too often think that this is no concern of theirs, and therefore give it no attention, except to see that the children are supplied with water, regardless of its source or condition. The children are permitted to drink any kind of water. We get the results directly in the digestive disorders, headaches, listlessness, dullness, loss of energy and vitality, and often in the contraction and spread of infectious and contagious dis-

eases. Often the school house well is shallow, improperly walled and protected from above, located so as to receive surface drainage from school closets or cess-pools, allowed to stand during the summer months without cleansing in the fall, so that the water becomes polluted with decaying matter, both animal and vegetable, which in itself is poison, but whose greatest danger lies in the fact that it forms the food upon which living germs of disease can live, and which are ready to grow when taken into the body. The water supply should rather be from a deep driven well in the front yard, or if in towns or cities, from a source free from contamination either naturally or made free by a process of purification.

Besides organic matters and germs of disease, water often holds in solution various gases, as sulphuretted hydrogen, sulphur dioxide, carbon dioxide, ammonia, nitrous and nitric acid, various radicals, as nitrates, nitrites, chlorides, phosphates and sulphates, and mineral constituents, as lime, magnesium, iron, sodium, potassium, sulphur, lead and copper. Some of the gases have medicinal effects; the presence of radicals indicates suspicious or dangerous water, while some of the minerals produce serious disorders.

Decaying organic matter may be detected by the turbid color and unpleasant or offensive odor, although clear sparkling water may be infected with the germs and parasites of disease. By boiling water, suspicious of containing organic matter, in a closed vessel, uncorking and smelling, the offensive odor due to the decaying matter can often be detected. Likewise

boiling destroys living organisms, and in most cases disease germs, and removes some gases and minerals. The presence of organic matter can also be detected by stirring some pure sugar in the water and allowing it to stand for a few days. If it contains organic matter, it will turn yellowish, but otherwise it will remain clear. Alum, one grain per gallon, with thorough agitation and subsequent settling, will carry down all suspended impurities and will give a water which will remain sterile for a considerable time, probably due to the removal of the food supply of bacteria.

Boiling, distillation, filtration, sedimentation, oxidation, chemical action are various methods of purifying water, but the teacher is not so much concerned with removing the impurities, which is usually difficult, as to know the source of the impurities and how to remedy it, and how to detect the presence of impurities in water, and thus prevent its use.

The presence of excessive chlorides, phosphates or sulphates indicates sewage contamination; excessive nitrites or nitrates, the presence of germ life; excessive ammonia indicates the presence of organic matter.

The teacher should be able to make the following qualitative tests:

Hard and Soft Water.—Strong soap gives a curdling, white, insoluble precipitate with hard water and lather with soft water.

Chlorides.—Acidulate a little water in a test tube with dilute nitric acid and add an excess solution of silver nitrate. A good water should only yield a slight haziness. If there is a distinct precipitate it shows the water to be dangerous.

Nitrites.—To a test tube partially full of water add a few drops (equal number of each) of sulphuric acid and potassium

iodide solution, and a small quantity of freshly prepared starch solution. A blue tint indicates nitrites, and should the color be at all deep, the water is unfit to drink.

Nitrates.—To a small amount of sulphuric acid in a test tube, add one-half as much water to be tested, and then add one drop of a solution of pyrogallol acid. A pink or delicate blue zone, changing into a dark amethyst tint, and from that into a brown tint, indicates nitrates. Shaking may cause the tint to disappear, but it will gradually return, and after standing a few hours a permanent tint is developed.

Ammonia.—To a test tube partially filled with water add a few drops of Nessler's re-agent (mercuric-potassium iodide solution). A yellow or yellowish-brown coloration indicates ammonia, and should the coloration be well marked, it is sufficient in itself to condemn the water for drinking purposes.

Often the water supply is good, but the method of distributing it to the scholars is bad. Common buckets with common cups is one of the worst, most dangerous and inexcusable methods. Small cups should be provided and running water, or pupils be permitted to pump their own water with instructions to cleanse the cup each time by allowing the water to flow over its sides.

Length of Time in School.—Too often parents consider the school as a place to send their children to keep them out of the way and from mischief. Small children can attend to one thing but a short time, even adults not very long. They soon become tired, restless and inattentive, which is the very best indication of a physical revolt, besides by holding the children too long we lose one main purpose in their training—the power of

willed attention as well as spontaneous attention. Children six and seven years of age can not be retained in school to their physical and mental good more than three hours a day, and this not continuous. Children should be required to take necessary exercise, but should not be unnecessarily exposed, provision being made for indoor play or calisthenic exercises on rainy and cold days.

Cleanliness.—Dust and dirt, which is a source of irritation, which may produce diseased conditions, and which often bear the germs of disease, can be reduced by thoroughly scrubbing, mopping and sweeping floors, which should be tight and oiled, if possible; by dusting with damp cloths; keeping chalk troughs and erasers clean; thoroughly airing and disinfecting rooms; occasionally cleansing desks, seats and wood work with a solution of lime water; excluding dampness and darkness from cloak rooms; disinfecting pencils, pen holders and other common property; requiring cleanliness among the children,

and by keeping outhouses scrupulously clean.

The hygiene of school instruction and discipline, the school curriculum, school work and recreation, the school examination are full of thought and are worthy of the most careful consideration by the thoughtful teacher, but the limits of this paper will not permit me to speak of them. Suffice it to say that overwork, worry about rank or examinations, lack of proper exercise, nervous tension in study, recitation or discipline lead to various physical disorders such as dyspepsia, headaches, nervous derangements, chorea, epilepsy, neurasthenia, etc., coupled with depressed vitality and susceptibility to disease, while at the same time mental effort is impaired or even thwarted. In my next paper I will speak in a more particular manner of some physical conditions incident to school life, induced or aggravated by improper school conditions and requirements.

A WEAK POINT IN PROFESSOR WARD'S THEORY OF EDUCATION.

EDNA M. RICHARDSON, CHICAGO LATIN SCHOOL.

In his great work on "Dynamic Sociology," Prof. Lester F. Ward defines education as the distribution of extant knowledge, and insists that the general diffusion of the knowledge already in existence would revolutionize society by the creation of opinions which would lead to dynamic action, which in turn would produce progress, and progress would bring happiness.

If Professor Ward is right in maintaining that education is the initial means of progress, society has set itself about its most rational business in organizing and supporting a public school system. The

school occupies a unique position in society, for, aside from the various political institutions, it represents the only important organization of effort on the part of society as a whole to influence, shape or control its future. The fact that children are educated at public expense through the completion of the secondary school is a recognition of the fact that progress should not be left entirely to the working of natural laws and the play of individual forces.

There are two primary factors to be considered in a discussion of education: First, its general relation to progress;

second, its matter and method. The realization of the fact that individuals must be prepared to become efficient members of society, and the establishment of a public school system, are a recognition of education as a social function. The necessity of finding out what elements enter into the character of the individual who is expected to become an efficient member of society, and the means of his preparation, involve the question of matter and method.

Given the educated individual, what is his relation to the forward movement of society? According to Professor Ward, it is this: The educated person has certain opinions which result in certain actions; these actions produce progress, the outcome of which is happiness. Granting for the moment that this sequence of results is correct, the second great question still remains, how may the school experience of the child be made to result in the development of an individual whose actions performed under the direction of a social intelligence will be in a real sense dynamic?

Along with the recognition of public education as a social function, there has gone a clearly unsocial ideal of what it was necessary to strive for as a result in the life equipment of the individual. Here is involved the paradox of the development of the social machinery of progress of which the product is unsocial.

As an illustration of the present state of education, let us suppose that a certain machine which is universally valuable has come to be made at public expense. Let us suppose further that industrial conditions change so that a new sort of machine is demanded. The fact, however, is not universally recognized, and the old style of machine continues to be manufactured by the public; but the product

it turns out is ill-fitted to perform the work it is supposed to do. Here and there groups of people discover that a better sort can be made, and, not being able to control the public manufacture, they set up in business and with their own small plant proceed to meet the need with a machine better adapted to the changed conditions. This illustrates roughly the place of the modern private experimental school.

Obviously it is not enough merely to put the machinery of education, that is, our school system, in the hands of society. The process of education must be of such a character that society will realize the benefits, and progress be actually hastened. Or, to put the case in another way, we must cease to take it for granted that because education has become public it has also become truly social. As a matter of fact, it has become public, and at the same time remained individualistic in its process and its results.

This being the case, there is at present a demand for a change in the curriculum and in our methods of education. This demand arises from the fact that the interdependence of the members of society is now much greater than it has ever been before. With our new industrial conditions has come a practically new society, demanding modifications of every sort in which the school must not be overlooked. But there is a deeper reason. The school, as was said before, stands by itself as a social institution. It is not like other institutions a product of forces of which society is unconscious. It is not carried on in the unconscious way characteristic of industry and commerce. Its office is to organize intelligence, to develop a social consciousness without which society advances only through the slow and wasteful process of evolution. The individual

is the agent of progress and the school is the means. No exception can be taken therefore to Professor Ward's idea of the relation of education to progress. The weak point in his theory is not to be found here. Professor Ward holds that opinion induces action and as knowledge produces opinion, all that is necessary in education is that knowledge be properly distributed. Here is the fatal weakness of his theory. The school has not completed its task with the development of intelligence in its pupils; there must be added a motive power in order to make this intelligence socially effective. The great question of education then becomes, not how shall we distribute extant knowledge, but how can the knowledge be imparted in such a way that along with the development of intelligence there shall be formed the habit and the desire to act always in obedience to intelligence.

This being true the method of education becomes all-important, for upon it depends our success or failure in rendering intelligence effective. It is conceivable that the subject matter of the social sciences themselves, for instance, might be so presented as to develop no accompanying desire to act in accordance with it. The primary factor is the school experience, not the chance but the selected experience. The development of intelligence is attained indirectly. This is suggested by Dr. Dewey when he says that the question is, "How much can be given the child that is really worth his while to get in knowledge of the world about him, of the forces in the world, of historical and social growth, and in the capacity to express himself in a variety of ways, and at the same time train each child of society into membership within a little community, saturating him with the spirit of

service and providing him with the instruments of effective self-direction."

Professor Ward says, in substance, let us put clearly before the minds of men the facts of evolution with its inference as to the laws of progress. To such a knowledge every science, every art, must make its contribution. Since such knowledge is the soil in which opinion develops and opinion precedes action, the place of beginning seems clearly indicated, and the work of the school is thereby determined to consist in the communication of knowledge.

In answer to this it should be said, first, that the question is not solved when it is proven that opinion precedes action. The real question is how may opinion be made to pass over into action, how shall knowledge be imparted so that it becomes the generator of action? The failure to see that herein lies the real problem of education constitutes the fatal weakness of Professor Ward's whole theory. Given the subject matter which if properly assimilated would become the motive power, how shall the process of imparting that subject matter so relate itself to the life of the child that it does actually become a motive to social action? "Given correct ideas," says Professor Ward, "self-interest will dictate the true course." But neither observation, experience nor psychology supports this proposition. The following sentence contains in brief the essential weakness which is referred to. "The education of information," he says, "differs from that of discipline in paying no special regard to the formation of intellectual faculties or of character," assuming that that these must necessarily follow from the possession of knowledge.

The education of experience, it is said, is accompanied by waste; the work of ed-

ucation should be to eliminate the waste by selecting and providing conditions for successful experience. Professor Ward overlooks the fact that experience is necessary to develop the will. Knowledge gained by experience is the only sort which renders information vital, or, in other words, knowledge imparted must have its interpretative basis in experience in order to be vital. This truth is brought home to us daily in too many ways to need illustration. Five minutes spent daily in extracting seeds from a cotton-boll will make of any boy a potential inventor of the cotton gin. The school must furnish to the child types of activities and experiences through which he may come into contact with reality, by which he stores up within himself the motive power of feeling, habit and desire, which alone makes knowledge actually dynamic.

If it takes all there is of science and of art to make a life socially effective, then by all means let us turn Professor Ward's theory around and make the school a place where living involves the study and application of science, history and art in order that the connection of these things with life may be realized as a part of the child's experience in school. Only in this way can the social spirit and the social mind be developed. Too much stress can not be laid upon the fact that to become effective in producing action, knowledge must have its basis in individual experience. Education must involve so far as possible the amalgamation in one process of its two phases, first, the development of intelligence through sufficient actual experience to render any new acquisition of knowledge an actual addition to what is already related to feeling and desire; second, the constant opportunity to develop the habit of social action. It is not

and never will be sufficient merely to communicate knowledge.

In spite of the weakness of his theory, Professor Ward makes a genuine contribution to education in his insistent emphasis of the fact that the great object of educational effort is the awakening of social intelligence, that individuals may realize that there is a set of laws governing social development and social progress which may be applied by society itself in directing its further advance. The realization of the existence of social forces as such, and of the organic nature of society, on the part of its individual units, is necessary for its further development. The primary object is the development of a social consciousness which manifests itself in the individual in an attitude of mind and a quality of action born of an understanding of the laws of social evolution and their application to his own conduct.

One of the encouraging signs of the times is the indications of development in this social consciousness. The public school is itself an evidence of its existence. The right of institutions to exist and the character of their work is frequently discussed on the basis of their service to society. The criterion of social service is applied to all sorts of action, including legislation. We may look forward to a time when society will consciously direct all phases of its existence in the same manner that an intelligent individual directs his own life. Political control is now consciously exercised. Society will finally organize means of control over its economic, its family and its artistic life as well. "The great problem," Professor Ward rightly maintains, "is how to bring society to consciousness."

CONSCIENCE IN SCHOOL WORK.

EMMA M'TAGGART, VINCENNES, IND.

All work is sacred. We are told in *Sartor Resartus* that everything is but the outward manifestation of a spiritual existence. That which gives value to any place is not the gold or silver or iron that may be found there, but these things have value only in so far as they are related to the human spirit. The most important thing about a locomotive is not the steam nor the fire, nor the coal, but the engineer. A town is but the expression of the spirit of its citizens. In a very real way a man's work is a concrete embodiment of his soul. That a man may manifest his highest spiritual existence and become a living and productive element in social progress, the State has organized the school.

The true goal of all public school education is moral character. The aim of all our intellectual efforts even is to produce a character whose highest aim shall be to do the right. We judge an act to be right or wrong. We feel an obligation to do or not to do the act. Moral satisfaction or remorse follows as we obey or do not obey. In popular language, conscience involves this whole experience. We may say it is the voice within us calling us to be our best by doing our best. It is not enough for a man blindly to obey his conscience. We have but to turn to the pages of history to see the awful deeds that have been committed in all ages through a mistaken sense of duty. Children have been burned alive in sacrifice to the gods; good men have been persecuted for their faith; innocent men have been tortured and finally put to death on charges of witchcraft. Ministers of Christ's gospel are cold and forbidding because they think it their duty to portray, not a God of love and

righteousness but one of might and terror. Teachers are stern and severe because they think the school room is no place for love and sympathy. It is not only a sense of duty that men need but a higher standard of duty. A man must employ all possible means to have an enlightened conscience, and then yield to it unswerving obedience. Nothing so commands the true respect of all mankind as honesty and straightforwardness. It is, then, the ultimate business of the schools to mould character such as Tennyson depicts for us in the description of his knight:

"Who revered his conscience as his
king,
Whose glory was redressing human wrong,
Who spake no slander, no, nor listened
to it."

But in spite of our schools, lawlessness still appears, savage mobs become judges, corruption, both State and private, exists, and our newspapers reveal tales of crime and of wrong that make the most sanguine man at least pause to reflect. James Freeman Clarke even goes so far as to say that the public conscience is fast becoming corrupted, and asks, "What is the use of the church, the school and the press if they can not instruct the community in common honesty?" And President Eliot, of Harvard, says that the educated critics of the practical results of public education complain that the schools are not doing their part, as lynch law, riots, etc., exist among us to an alarming extent.

If it is the vital work of the schools to teach fidelity to an enlightened conscience, why is it that no more is accomplished in this direction? Let us con-

sider for a few moments the actors in the schools.

In the first place the parents themselves do not recognize the necessity of moral training as a feature of school work, and consequently do not demand it. If the child's intellect is developed that is all they ask. Neither does the average school officer realize it as the real business of the schools, and hence, when it comes to the selection of teachers, by far the most important qualification of any teacher—an upright character—is too often a matter of indifference. If he belongs to the right political party; if he is a man who will be popular with the pupils; if he is skillful in the process of extracting facts from those under him, and, above all else, if he is properly impressed with the fact that it is a teacher's duty to be submissive to higher authority—whether right or wrong—his chances for election are usually excellent.

Too often the teacher does not enter upon his duties with this high aim of teaching adherence to duty honestly in view. His character is too often dwarfed and self-centered. He can not impart to others that which he himself has not. He fails to accomplish the work of the schools because he is incapable of realizing the sacredness of his work.

How, then, shall the schools best teach obedience to an enlightened conscience? So long as politics controls them it can make but slow progress. Unfortunately this condition is so prevalent as to make the outlook discouraging at times. True, there are notable exceptions to this state of affairs, but the testimony of school men seems to be that the evil is growing and is the greatest curse of our public schools. The term politics in connection with school work is not to be limited to the mere fact of a man's position depend-

ing upon the political party of which he is a member. In some places this counts for much, but far more frequently the term is used in reference to the use of the school as an agent to secure such influence for a school officer as will insure his position for him or advance his own interests, regardless of his personal worth. Just so far as the school is an instrument for favoring the friends and punishing the foes of those in authority, its very purpose is defeated. A New England school superintendent in an article in the *Atlantic Monthly* says that the result of his experience is that the average member of a school board looks at all questions from this point of view: "How will it affect me and my friends?" rather than "How will it affect the schools?" The school superintendent who lowers his standard of right to meet the members of the board on an equal footing, who fears to come out openly and take a decided stand on any question, who is willing to wear two faces in the hope that he may make no enemies, whose test of a teacher's fitness for his work lies wholly in that teacher's character of a spy for the superintendent, or the influential friends he may have, that superintendent is just as truly controlled by politics as are the members of his board. If our schools are to stand for right and honesty, our trustees and superintendents must be men of unquestioned moral character, whose sincerity of life and acts no child will ever need to question. They must be men imbued with a sense of their responsibilities. They are not men whose only duty is to keep the machine well oiled so that it may run smoothly. They are agents of the fathers and mothers of young people for whose training they are responsible to a high degree. Let an officer, be he trustee or superintendent, first of all, have, as

Carlyle says, "that openness to Nature which renders him incapable of being insincere." Again let him say with Carlyle, "You may take my purse, but I can not have my moral self annihilated. The purse is any highwayman's who might meet me with a loaded pistol, but the self is mine and God my maker's; it is not yours."

What kind of teachers will such men as these select? They will certainly be very far from indifferent as to the moral character of their teachers. They will recognize the "true kingship of a teacher in his stronger moral state and truer thoughtful state than that of others."

Such a teacher and so chosen will feel his responsibility to the board for the best service of which he is capable. He will recognize it as his duty to act in harmony with the officers in all things not involving any sacrifice of principle on his part. He will enter upon his duties, not with the ultimate aim of pleasing the passing whim of superintendent or school board, and making himself universally popular. He will consult in every case principle rather than expediency. It is a vital mistake to say that a teacher must in all things be submissive to the higher authorities of the school. Just so far as he can work in complete harmony with them and not violate his own conscience it is evidently his duty to do so. But right is pre-eminent and the teacher who says, "I know it is not right for me to take this stand, but I do not want to cause any trouble, and besides I have to think of my position," has reached a dangerous point.

What shall be the dealings of a conscientious teacher with his pupils? How are they to be trained to a love of the good and the beautiful? Someone has said, "Better to miss fame, wealth, learning,

than to miss righteousness." To give a child moral training does not mean that it is necessary to set apart some period of the day in which to talk or read to him upon ethical subjects. We should distinguish between ethics and morals. The former is the scientific study—the theory of duty; the latter, the practical application of the rules of righteousness—the habits which we have formed respecting right and wrong. The study of ethics has no place in a public school, because the young mind should not be taught to analyze and systematize the facts of its own moral nature. Otherwise his condition might be analogous to that of the poor centipede:

"The centipede was happy quite,
Until the toad, for fun,
Said, 'Pray, which leg comes after which?'
This worked her mind to such a pitch
She lay distracted in a ditch,
Considering how to run."

The most potent factor in this department of school work is the teacher himself. Children are quick to observe, and in their judgments of actions are keen critics. It has been said that no nobler feeling than this of admiration for one higher than himself dwells in the breast of man. Children are not only quick to observe. They are hero worshippers as well. The worst boy in a school is not slow to recognize and respect goodness in others which he is fully conscious is not in himself. Happy the boy of whose teacher he can say with all his heart, "He is good." What does a boy mean by a good teacher? It is the one whose life is true, who has perfect control of his temper, who makes the boy feel that he is helping him, not with a view of dollars and cents before him all the time, but because he is personally interested in him.

He is the teacher who never says what he does not mean, who does not pretend knowledge of things of which the boy easily detects he is ignorant; who is faithful in his work.

Childhood is not simply a preparation for life. It is an organic part of one life. A child's duties are just as important as those of any officer or teacher. The teacher who has awakened within the child a sense of this responsibility has achieved much.

Note the difference in two teachers. One attempts to secure good order and satisfactory lessons by threats of punishment and awards of prizes. The child feels that all authority emanates from the teacher, and the chief end of school work for him is to escape the punishment and secure the prize. True, the struggle for the prize may and probably will quicken his intellectual faculties, but what about the effect upon his moral nature? The satisfaction that comes to him from winning lies chiefly in the feeling of exultation over his classmates who have been less successful, but perhaps more deserving. Such a spirit is evidently not in harmony with the great lesson Christ would have us teach the world: "Love thy neighbor as thyself."

Threats of punishment are of two kinds—those which the boy knows will be carried out by the teacher, and the larger class which he soon learns to know are simply lies. If the teacher lies to the boy he must not hope for anything better from his pupil. He may teach French successfully without being French in blood, manners and customs, but he can not teach honesty without being himself the soul of honesty.

Let us see the other teacher. One hears nothing of prizes, and we are not made

conscious of any fears of punishment reigning in the school. But the children are working quietly and seem to be interested in their work. They realize that the school is theirs, that they are responsible for what they are doing—the makers, in fact, of their own rules. If punishment is necessary the pupil is made to feel that he himself has created the necessity for it and that it is not inflicted by the teacher through a sudden loss of temper caused by some misdeed. The teacher is not continually demanding apologies. There may be times when an enforced apology is beneficial for the sake of the school, but those times are few. It is doubtful whether it ever benefits the individual pupil who makes it.

The child must, then, be made to understand and appreciate a higher motive as a basis of right acting than the mere command of those in authority; and be made to realize his responsibility for the performance of his duties.

Conscience must enter into every phase of life. The boy must be taught to put conscience into every exercise he prepares, every word he spells and every song he sings; and the teacher who allows his pupils to sink below their best, who accepts inferior work, is doing his part in the corruption of the public conscience.

In our work of giving the boy a high standard of right, the play ground must not be forgotten. It should be the purpose with the boy to do the right thing here; where to do the right thing is often hard. Not to win a bet, not to take a mean advantage, not to shirk hard work, not to disappoint at the critical moment, not to be conspicuous at the cost of the rest, but to play the game should be his object. Allow me to quote a short poem in which the ideal kept before the English

boy on the cricket field manifested itself as a part of his life afterwards on the field of battle:

There's a breathless hush in the close tonight,

Ten to make and the match to win,
A bumping pitch and a blinding light,
An hour to play and the last man in!
And it's not for the sake of the ribboned coat

Or the selfish hope of a season's fame,
But the captain's hand on his shoulder smote,

"Play up! play up! and play the game."

The sand of the desert is sodden red,
Red with the wreck of a square that broke;

The gatling's jammed and the colonel dead,

And the regiment blind with dust and smoke.

The river of death has brimmed his banks,
And England's far and honor a name,
And the voice of a school boy rallies the ranks,

"Play up! play up! and play the game."

This is the word that year by year

While in her place the school is set,

Everyone of her sons must hear,

And none that hears it dares forget;

Thus they all with a joyful mind

Bear through life a torch in flame,

And falling, fling to the host behind,

"Play up! play up! and play the game."

As an indirect means of awakening the moral sense in children and kindling in them an admiration for true character, selections should be read to them which appeal to their hearts as well as brains, selections which will force them, unconsciously though it may be, to mark dis-

tinctions between right and wrong, and to make a choice between the two.

A boy's moral nature grows just as does his intellectual nature. It is at first weak and must be strengthened. It is evidently every teacher's duty to remove temptation from the child so far as he can. Once yielding to temptation makes it easy for a repetition of the act, and thus the habit is formed.

Many teachers encourage deceit in their pupils by the injustice of their punishments. By inflicting too severe punishment for slight offenses the child soon learns that the easiest and most comfortable way for him to get along and have a pleasant time in school is to do as much as possible in an underhand way so that he may not be found out.

Let a teacher, just so far as possible, make all his work practical, concrete. We hear the question asked, "Well, what about mathematics and the so-called sciences in the schools? They surely can do nothing toward developing the pupil's moral nature." On the contrary, their value in this direction is hardly to be estimated. Take algebra, for instance. It will, at least, sharpen the pupil's mind and enable it better to perceive what is right. Besides, the study accustoms one to obedience to law and truth of a certain kind, and this is the attitude of the student of morals.

It is, then, as Professor Palmer says, "to the management and temper of the school that we are to look for moral aid. That school where neatness, courtesy and simplicity obtain; where enthusiasm goes with mental exactitude; thoroughness of work with interest; where sneaks, liars, loafers, pretenders and rough persons are despised, that school is engaged in moral training all day long."

THE CAUSES OF OCEAN CURRENTS.

GLENN CULBERTSON, HANOVER COLLEGE.

For more than a century the causes of ocean currents has been a subject concerning which frequent and earnest discussions have been entered into. The close of the nineteenth century brings us much nearer the truth, perhaps, yet we find that text-books on physical geography, published within the last ten or fifteen years, and in more or less general use in our schools to-day, vary widely in their statements of the causes of ocean currents.

There are several elements which must be considered even in a treatment of our subject which is far from exhaustive. The apportioning to each element its proper influence in the formation of ocean currents, has, without doubt, been a fruitful source of difficulty and disagreement among observers and writers upon this subject.

In the space allotted to this article, a brief discussion of the principal causes of ocean currents, as they have been advanced by different writers, must suffice. By this brief treatment, however, we should arrive at a clear understanding of the question before us.

The charts of ocean currents in any good text of physical geography, will greatly assist anyone who desires to refresh his memory as to the general directions of the ocean circulation. As texts of especial value we would refer the reader to Frye's *Advanced Geography*, page 23, or better still, to Davis's *Physical Geography*, page 77, or to the *Eclectic Physical Geography*, page 138.

The gravitational theory of ocean currents as maintained by writers on this subject and chiefly by Maury in his "*Geography of the Sea*," contains two distinct

primary elements. These are changes in the specific gravity, or weight, of ocean water, due, first, to different temperatures, and second, to varying saltness. It is generally understood that the rotation of the earth and the configuration of the coast lines modify the direction of flow. The chief causes of the currents, however, according to the upholders of the gravitational theory, are those given first.

Temperature soundings in various parts of the ocean have been the means of informing us, somewhat accurately, of the temperature of the ocean in different latitudes and at varying depths. The temperature of the surface waters in the polar regions has been shown to be 32° F., approximately. The temperature falls to 30° F. and perhaps lower in the deeper arctic waters. (The maximum density of sea water being about 26° or 27° F., according to the salinity.) The equatorial surface waters have an average temperature of about 80° F. This high temperature, however, is limited strictly to the surface waters. A temperature of 41° F. has been found at a depth of only 250 fathoms in equatorial regions.

Since water expands on becoming heated, other conditions being the same, a certain volume of equatorial water at a high temperature must be lighter than an equal volume of cold polar water. Consequently the surface of the sea near the thermal equator must stand somewhat above the surface of the polar waters, in order that there may be hydrostatic equilibrium between the waters of the two regions. This statement may be explained by the following illustration: If in a U-shaped glass tube we pour a quantity

of water, the water surfaces will be at equal heights. If we now pour in a quantity of kerosene (or other light liquid) in one of the sides, the kerosene surface will be seen to be much higher than that of the opposite water surface. If the oil were free to flow it would pass across to the water surface in the other arm of the tube.

A rather intricate calculation in which the coefficient of expansion of sea water and the average difference in temperature between the polar and equatorial waters, are involved, discloses the result that the difference of level between the two seas, due to this cause, is certainly not more than ten or twelve feet, and is probably less. Granting that the difference of level due to this cause alone may be 12 feet, this would give rise to a slope or gradient from the equatorial towards the polar regions of approximately 1-30 of an inch per mile. The surface slope of the lower Mississippi at low water, where the rate of flow is about 1 or $1\frac{1}{2}$ miles per hour, is as much as 2 or 3 inches per mile. This slope, then, of 1-30 of an inch per mile, is manifestly far too small of itself to produce any perceptible current, or even a slow drift.

The effect of the varying saltiness of the sea, the next element to be considered, may be understood by examining the conditions producing the variation. In the region of the trade winds evaporation is much more rapid than in any other equal area of the oceans. The trades begin as cool and dry winds. As they approach the thermal equator they are constantly becoming warmer, and as a consequence they abstract large quantities of water in the form of vapor from the sea over which they move. Reliable estimates place the amount of this annual evaporation at fourteen feet. The evaporation in the polar seas must be very small because of

the low temperatures and the moist condition of the atmosphere. The evaporated water is fresh, the salt being left behind in the process of evaporation. Inasmuch as the remaining sea water has a larger proportion of the salts, it must be denser, other conditions being the same. This greater density must be considered in a theory of ocean currents.

The average annual rainfall of the trade-wind belts, however, is given at 6 or 7 feet. And since approximately one-half of the vapor taken from the sea by the trade winds is returned in the form of rain, we have but about one-half of the original 14 feet to be considered. How does this element of evaporation, or its direct result, the varying salinity of the sea water, affect ocean currents?

Maury, in the "Geography of the Sea," maintains that the effect of the greater salinity of the tropical waters is to supplement the influence of varying density produced by different temperatures and therefore produce an added effect in the formation of surface currents towards the nearest polar regions. It would seem, however, as pointed out by Croll in his "Climate and Time," that the effect would be the reverse of that ascribed to it by Maury and others.

The tropical waters are as a result of the addition of salt made denser and the weight of equal volumes of polar and tropical waters becomes more nearly equal. If this latter statement be the truth, then the two elements of the gravitation theory, i. e., varying density, due to temperature and salinity, to a great extent counteract each other. It is manifestly impossible then to find an adequate cause of ocean currents in the gravitational theory.

In the Eclectic Physical Geography a statement is made that the effect of the greater salinity of the waters in the tropi-

cal regions is to cause a current towards the doldrum belt. Here the more saline and hence denser waters of the tropical regions displace the lighter waters of the doldrums produced by excessive rainfall. Granting the truth of this statement we fail to understand how the surface flow towards the poles would be increased thereby.

Since the gravitational theory of ocean currents has not satisfied the requirements for the production of the water circulation of the ocean, as we find it to-day, let us examine the other great theory advanced to account for ocean currents.

The wind theory proposed by Franklin more than a century ago, and hardly at all accepted by later writers, until within the last decade or so, is now generally thought to contain the elements of truth. Some writers have advanced the idea that the trade winds alone cause the ocean currents. The investigations of recent years, however, have shown that in every part of the various oceans, the currents and drift of the waters are in the direction of the prevailing winds.

Not only do the trade winds but all winds have their influence in producing the ocean circulation. Croll gives as the strongest proof of the wind theory that the currents take the direction of the prevailing winds. While many lines of evidence go to prove the wind theory to be the true one, yet there is great need at present of some definite investigations as to the exact influence of the wind on the water level. Anyone who has observed the effect of strong winds in heaping up the waters along the sea shore during great landward windstorms, will be prepared to grant the winds a great power in moving surface waters, yet investigations with quantitative results are necessary. Accurate observations of the effects of the

winds on our great lakes or even on many of the smaller lakes of our own and neighboring States, would help much in the understanding of this influence of the winds.

To explain the origin and formation of the Gulf Stream, for example, according to the wind theory, we may suppose that the current originates in the trade wind belts. The northeast and southeast trades blowing constantly, push the surface waters before them slowly, and as a result the waters must be higher in the doldrum belt and there must be a more or less rapid movement of the waters of the region under the influence of the trades towards the west. This movement in the Atlantic forces the waters westward through the Caribbean Sea and in general in a northwesterly direction among the islands of the West Indies. The most noticeable current being deflected by the land masses, passes through the channel of Yucatan into the Gulf of Mexico and out into the Atlantic through Florida Strait. The channel of Yucatan is much wider and deeper than that of Florida Strait. Consequently the water accumulates in the Gulf of Mexico and causes a very rapid flow, as "from a nozzle," through the Florida Strait. In passing it may be well to point out the fact (which in itself is a strong proof of the wind theory of ocean currents) that the waters of the Gulf of Mexico stand about twelve inches higher in summer than in winter. We find the explanation of this peculiar phenomenon in the fact that the doldrum belt is so far south during our winter that the eastern point of South America divides the waters pushed westward by the trade winds much nearer the doldrums than during our summer, when that calm belt is farther north. The result of this division of westward moving waters is to send more of the warm water into the

South Atlantic and less through the Caribbean Sea into the Gulf of Mexico. Hence the difference of level in the Gulf.

The Gulf Stream, passing up the Atlantic coast, is gradually deflected more and more to the east, because of the influence of the earth's rotation, and that of the prevailing southwestern winds. These winds, being the chief cause, push the waters in the form of a current, in part, and of a drift, in part, towards central and northern Europe. From this region some of the waters pass to the south along the coast of Portugal and Africa and finally into the trade wind belt again.

Some of the surface water reaches the Arctic seas and this flowing of warm currents into the almost enclosed Arctic necessitates a return current. The cold return currents start southward in part as a deep sea flow and in part as a surface flow. The surface waters, through the influence of the winds and the rotation of the earth, follow the west side of the ocean as far south as New Foundland and the northeastern coast of the United States, where they plunge beneath the warm waters of the Gulf Stream and complete their course to the equatorial region.

The evidence for the existence of far-reaching undercurrents is threefold: (a) The temperature of the depths of the sea, even in the torrid zone, is as low as 32 degrees Fahrenheit, or even lower. This could not be without a current from the Polar regions. (b) The deep seas contain oxygen sufficient to sustain rather abundant life, and this could not be without a source of supply brought in by currents. (c) In the equatorial regions water as cold as 40 degrees Fahrenheit is found within 250 fathoms of the surface. As water of this temperature is not found so near the surface in regions much nearer the poles, it is claimed that the water

from the ocean depths rises to fill the vacancy made by the surface currents toward the west in these regions. By such a course the circulation of the North Atlantic is completed. The circulation of the North Pacific is essentially the same. That of the South Atlantic, South Pacific and Indian oceans is similar, with the exception that the currents are not so strong.

In this fact of slower currents in the southern oceans there is a strong argument against the gravitation theory. If gravity were the principal factor in causing ocean currents, the more rapid movement of the waters should be in those oceans which are most open to a free interchange of polar and equatorial waters. The reverse of this is found to be true.

In the doldrum belts, of both the Atlantic and the Pacific, narrow eastward flowing currents are found. (See Davis's *Physical Geography*, page 77.) How are we to explain these peculiar currents? How do they originate and why do they flow in that direction? By the gravitation theory they can not be satisfactorily accounted for, but by the wind theory they are not difficult of explanation. We have stated previously in this paper that the trade winds and excessive rainfall caused a considerable accumulation of waters in the doldrum belt and especially in the western parts of the oceans. The doldrums being regions of ascending air currents are consequently a region of calms. This being the case, the accumulated waters of the doldrum belts in the central and eastern parts of the oceans seek the lowest level attainable. Hence, the flow or drift towards the east.

Other points of interest which have a more or less direct bearing in explaining the origin of ocean currents could be cited, but sufficient has been given to ex-

plain and impress the principles of the theories advanced.

In closing it may be well to recapitulate by stating that in so far as correct observation and reasoning are able to guide us, the immediate cause of ocean currents is the winds. The trade winds perhaps are the chief agents among the winds, but all the prevailing winds have their proper influence. It is probable also that the

varying density of sea water due to temperature and salinity has its part in the great circulation of the seas, but that part must be very small compared with the influence of the winds. The coast lines and the rotation of the earth also have their proper influence in changing the direction of the currents generated by the agencies mentioned above.

..... THE SCHOOL ROOM

PICTURE STUDY.

MRS. E. E. OLCOTT, DANVILLE, IND.

Alta has organized a Picture Study Club. I call her Alta because the name begins with A, and suggests seeking higher things! She is one "who knows not and knows she knows not" anything about great artists and their works. It was a chance question, however, that made her feel that her ignorance was "huge as high Olympus."

One day three of her friends each received a mysterious little note:

My dear—"I've a scintillation!" Come to my home at two this afternoon and I'll share it with you! Yours, Alta.

Upon their arrival, Alta said tragically, "'Listen to my tale of woe,' for that led to the 'scintillation!'" Last week I met that Yale student who is spending his vacation in the wilds of Hoosierdom. After we had exhausted the weather topic, he asked, in the tone which people use when they are politely endeavoring to 'tear silence into shreds,' 'Do you admire Gibson's pictures?' It flashed over me, 'If I say yes, he may ask me which I like best, if I say no, he may ask why,' so I said,

'I do not especially admire them, do you?' He did! And he talked learnedly but tantalizingly, for he gave me no clue to any information I needed. I longed to ask, 'Well, who is Gibson? What did he paint or draw?' But I checked the reckless impulse, and, comforting myself with the thought, 'The art of conversation is the art of hearing as well as of being heard,' I listened attentively, though haunted with the fear that he might punctuate the smooth flow of his words with a question which I could neither answer nor evade! Finally he drifted from Gibson to Dore—don't ask me how!—and spoke of Dore's illustrations in *Paradise Lost*. Oh, girls, how welcome *Paradise Lost* sounded! I had heard of that! If I could steer from the shoals of artists to the harbor of authors, I should be safe! So I said, '*Paradise Lost* certainly offers a rich field for an illustrator. By the way, do you enjoy Milton's great work? It seems to me too lofty "for human nature's daily food." I like to spend half hours with it, but a longer time tires the wings of my thought. I'm sure I get more inspiration from modern poets and none have sweeter messages for me than our own Hoosier

poet. Which of Riley's poems do you like best?"

"I drew a long breath of relief as I paused for his reply, for I knew at least as much about Riley as he did! I spoke also of our Kankakee poet, and felt at ease. But was not my ignorance of artists woeful? I sat me down to think. But never an American artist could I remember! I racked my brain for any artist's name! I thought of Raphael, he painted the Sistine Madonna; of Michael Angelo, I couldn't think of anything of his; I recalled Dore because I had read that during the Franco-Prussian war he presented his passport. 'This passport is for Dore,' said the officer, 'but how shall I know that you are he?' Thereupon Dore sketched upon his passport a battle field with the dead and wounded piled in heaps. 'None but Dore could draw that; you may pass through the lines,' said the officer. I remembered Rosa Bonheur, because I had read that she was allowed to disguise herself by wearing men's clothes, so that she might go out to study animals without attracting attention.

"I could not think of another one! Only four, and two of them I recalled because of anecdotes about them! I made up my mind I would widen my horizon by learning of artists and pictures, even though I do teach an obscure little school. Don't you remember that the opening sentence in Miss Alcott's 'Shawlstraps' is, 'Girls, I've a scintillation?' Well, my scintillation is that we four form a P. S. Club—Picture Study Club. Good luck sent me to the superintendent's library yesterday and directed my eyes to 'How to Enjoy a Picture,' and I borrowed it. Listen to this passage:

"We count a person uneducated who has no acquaintance with Shakespeare, Scott, Hawthorne, Lowell and Longfel-

low; yet artists like Raphael, Murillo, Van Dyck, Millet, Breton and Thayer should be equally familiar to him.'

"Doesn't that come home to us? But if that passage shows why we should want to know something of artists, this is a sort of guideboard to show us the way:

"It is never to be forgotten that it is the rest of the world and not you that holds the great share of the world's wealth, and that you must allow yourself to be acted upon by the world if you would become a sharer in the gain of all the ages to your infinite advantage. You should go to the picture galleries to be acted upon, and not to express or try to form your own perfectly futile opinion. It makes no difference to you or to the world what you may think of any great work of art. This is not the question; the point is how it affects you. The picture is the judge of your capacity, not you of its excellence. The world has long ago, perhaps, passed upon it, and now it is for the work to estimate you. If without knowing that a certain picture is from the hand of a great master, you find yourself wonderfully attracted by it, and drawn to it over and over again, you may be glad that its verdict upon you is favorable.'

"That makes me want to go to pictures and let them 'judge my capacity!' I'm curious to know how they will measure me! So let's form a Picture Study Club and go together to be measured."

"But we can't afford a teacher, nor traveling, nor costly pictures, nor even books on art," said one; "how can we study pictures when we do not know anything about them?"

"Portia tells us," returned Alta promptly, "that

.... 'The full sum of me
Is sum of—something, which, to term in
gross,

Is an unlesson'd girl, unschooled, unpracticed;
 Happy in this, she is not yet so old
 But she may learn; happier than this
 She is not bred so dull but she can learn.'

"We are unlessoned, unpracticed, but we are young and not so dull but we can learn, be it ever so little. So I still say a P. S. Club, by all means."

"People will think P. S. means postscript," suggested another.

"Well, postscripts are after thoughts, and second thoughts are best!"

"You have given us quotations setting forth why we should study, and the spirit in which we should study, but what we shall study is still misty to me," said the third. "Is it your idea that we form a club to study this one borrowed book?"

"I shall call you Job's comforters, my three precious friends," laughed Alta. "My plan is this, that we canvass among our acquaintances and borrow all the books that touch upon pictures! The superintendent said that Ruskin and Hawthorne would be excellent for us. Then there are fine illustrations in magazines. I know there are many articles on picture study in the educational papers I take. I have always skipped them, but I'll study them now! I have the 'Lights of Two Centuries,' too. Then if we should put a quarter apiece in our club treasury we could buy some of the Great Artists Series, and a number of the penny pictures.

"We could meet once a week and discuss some artist or picture, and I have some other budding ideas that I'm sure will burst into bloom!"

"The thought of your budding ideas and your blooming ideas is irresistible, Alta! What is life without picture study? All in favor of a P. S. Club say aye!"

Four voices responded, and since pic-

tures and poetry are as twin stars to the soul, they began work by committing Browning's lines:

"We are made so that we love
 First, when we see them painted, things
 we have passed
 Perhaps a hundred times nor cared to see,
 And so they are better painted—better for
 us,
 Which is the same thing. Art was given
 for that;
 God uses us to help each other so,
 Lending our minds out."

SOME KNIGHTS IN SEARCH OF THE HOLY GRAIL.

LYDIA R. BLAICH.

Why were Arthur and his men called "The Knights of the Round Table?" Merlin, the prophet and dearest friend of Arthur, used much skill in constructing the "Round Table," surrounding it with thirteen seats, in honor of Christ and his disciples. Twelve only could be occupied by the very best knights; the thirteenth one, representing the traitor Judas, remained vacant. Once a haughty knight tried to place himself in it, when the earth opened and swallowed him. Ever after it was called the Perilous Seat. Some unseen power wrote over each chair the name of the knight worthy of sitting in it. Whenever through death or other means a chair was vacant it could be claimed only by a knight whose deeds exceeded in valor and glory those of the previous occupant. If some one unworthy attempted to take the chair he was violently cast out by some hidden force. Finally, however, there was born a knight good enough to sit in it unharmed.

Have you ever heard of the Holy Grail, the cup from which our Savior drank at

the Last Supper? It was supposed to have been entrusted to Joseph of Arimathea, and ever after it was given into the safe keeping of one of Joseph's descendants on the condition that the recipient lead a pure life in thought, word and deed. At last the cup found its way into Britain, where its presence conferred many blessings upon the people, who worshiped it most reverently. One day its guardian committed a wrong and instantly the cup disappeared from all eyes, and with it passed away the age of happiness.

Many men had spent their lives searching for the cup in vain. One day Merlin sent a knight, Sir Gawain, to Arthur, asking him to undertake the recovery of the Holy Grail, saying that the knight who could succeed was now living. At the next great church festival, when all the knights were assembled, Arthur was revolving in his mind the best plan of finding the Holy Grail, when suddenly a marvelous light and sweet odors filled the room. Each knight looked fairer than ever before; and the cup, covered with white silk so that none could see it, passed through the hall and disappeared. For some time all were breathless; finally the king said: "For this wonderful sight we should give thanks to our Lord." Sir Gawain and many other knights arose and vowed that they would go in quest of the sacred vessel for a year and a day unless, perchance, they should find it in a shorter period. Arthur sorrowed greatly at this, for it meant the separation of the best company of men ever seen in any part of the world.

At that very moment, an aged man, leading a young knight toward Arthur, entered and said: "I bring you a noble youth, the son of your knight Sir Launcelot and the kindred of Joseph of Arimathea." The young man was very hand-

some, and seemly, and gentle as a dove. All were pleased with him, and King Arthur said: "God made him a good man." The young man was led to the Perilous Seat, over which there now appeared the words, "This is the seat of Sir Galahad, the good knight." Every one marveled much to see Sir Galahad securely occupying the chair; and they said, "This is he by whom the Holy Grail shall be achieved."

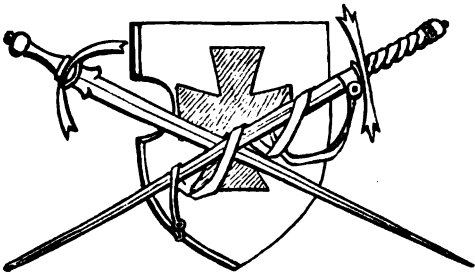
Preparations were made for the journeys, the knights attended church in a body; and the service being over, they put on their helms and departed on their missions amid much sorrowing. Each man chose his own path.

Sir Galahad rode forth without shield for four days and found no adventure. Then he reached an abbey which contained a white shield with a red cross, which no impure man could carry unharmed. Sir Galahad took the shield and rode on till he met a goodly knight, whom he politely addressed thus: "Can you tell me the marvel of this shield?" The reply came, "It belonged to Joseph of Arimathea, who, when he died, said, 'Never shall man bear this shield but he shall repent it, until Sir Galahad, the good knight, bear it, the which shall do marvelous deeds.'"



Sir Gawain, after riding many days, came to the same abbey from which Sir Galahad received the shield. Hearing the story, he said, "I regret that I did not

go with Sir Galahad, that I might take part in all his wonderful adventures." "Oh," said one of the monks, "you can not keep him company, because you are sinful, and he is blissful. You must do penance for your sins." "That will I not," answered Sir Gawain, and he departed. Soon reaching a castle where a great tournament was in progress, he joined the weaker party and drove the stronger side before him, when suddenly the knight with the white shield rode up and smote him so hard that he fell helpless to the ground. Perceiving it to be Sir Galahad, Sir Gawain said, "I shall seek no further."



A third knight, Sir Perceval, ventured forth until he came to an army of twenty men, who cried out, "Slay him." They attacked him and would surely have slain him had not the knight with the red cross come up at that very instant and driven the men deep into the forest.

Sir Perceval had lost his horse in the encounter; therefore he repeatedly called to Sir Galahad, who would not return. After crying long and loudly for help, he seemed to forget the holy mission on which he had set out and when some evil-minded persons offered assistance on the condition that he serve their will, he promised. Consequently he brought himself into a number of difficulties. Once he almost lost his life in a great boisterous black water toward which an inky black

horse carried him with such swiftness that it was only by the grace of a good thought that his life was saved. He had so few pure thoughts, however, after Sir Galahad left him, that it is no wonder he could not find the Holy Grail; for was not the condition on which it could be restored that the seeker must be pure in thought, word and deed?

After several severe lessons, Sir Perceval regained control of his nobler self and then he fared better. He finally reached a ship covered with white silk. He entered it and rested himself, right glad to be rid of his former companions.

In the next story-hour, you shall hear how Sir Galahad found him.

CHILDHOOD.

To be a true teacher, one must know his subject and know his pupils. To help men, we must understand something of the difficulties that beset manhood. To help children, we must understand something of the difficulties that beset childhood. It is not given to every one to have intimate personal relations with children, but every one has had a childhood and every one has a memory. Every one knows something of his own child-nature, his hopes and fears, pleasures and pains. It is not so much increased knowledge that we need, as an intelligent use of the knowledge that we have. The world of childhood is waiting for this.

READING.

In the course of our reading we should lay up in our minds a store of goodly thoughts in well wrought words, which shall be a living treasure of knowledge always with us and from which, at various times and amidst all the shiftings of circumstances, we might be sure of drawing some comfort, guidance and sympathy.

Indiana School Journal.

PUBLISHED MONTHLY.

D. M. GEETING, - - - - - Editor.

ELMER B. BRYAN, - - - Associate Editor.

Discontinuance.—The Journal will be discontinued when the time for which the subscriber agreed to take it has expired. The figures preceding the dash on your label give volume of Journal; those following, the number of the volume with which your subscription expires.

Remittances.—Send postal money order, express money order, draft, or money in registered letter. Give name of agent who took your subscription.

Missing Numbers.—Should the Journal fail to reach you by the 15th of the month, notify the publisher AT ONCE; he will then supply the missing number.

Change of Address.—When a change of address is desired, the subscriber must give both the old and the new address.

Price.—Subscription price is ONE DOLLAR a year. Single copies 10 cents.

Address all communications to

INDIANA SCHOOL JOURNAL,

Commercial Club Building,

INDIANAPOLIS, IND.

Entered at the Indianapolis postoffice as second-class matter.

VACATION.

A busy worker recently said, "My avocation is my vacation from my vocation." In that statement he suggested a truth that has its bearing on all plans for vacation life. Every man needs his vacation in some form or other, at one time or another, but a change of work is more of a relief to many a man than an abandonment of work would be. When a man is to take his vacation and how he is to use it is not a question for fashion or custom to settle. Avocation work may be vacation rest.

THE COUNTY INSTITUTE.

Before the next issue of the Journal we will be in the midst of another institute season. The institute has been one of the most potent factors in the stimulation of the teachers of the State and in the elevation of the profession to the high plane on which it now stands. Indiana has al-

ways been in the front rank in this work. It is doubtful if any other State has its institutes so well organized, the work so strictly professional, and the instructors so universally fitted for the peculiar work to be done as Indiana. But it must not be forgotten that all other educational forces are advancing, that the teaching fraternity in Indiana is stronger and better trained than it has ever been before, and that the work which was most excellent in institutes ten years ago will not do to-day. It is pretty generally recognized by instructor and teacher alike that the day for purely academic work is past and that the day for recipes is past. It is time that some other features of the institute should be discarded. Indeed, there never was a time when they had a legitimate place. Most prominent among these are the joke, "flying the track," and mere sentiment. Often copious illustrations of abstract points are very desirable, and this may take the form of the relating of incidents, but this is very different from the habit so prevalent with some institute lecturers of consuming the time with story telling. A story or an incident has no place in a lecture unless it helps to drive home the pedagogical point in hand. Other things being equal, one's value as an institute instructor is in inverse ratio to his disposition to keep his audience in a roar of laughter. Closely allied to this is the disposition to "fly the track." It is no uncommon thing for an instructor in giving a talk labeled "Grammar" to give a hash of all the language studies—grammar, rhetoric, elocution, reading, orthography, etc. It is a way to show one's versatility, but it shows great lack of training and is dissipating in the extreme. Or one may under the guise of natural science bring in a smattering of physiology, anatomy,

geography and foreign travels, spiced up by some startling brain-hatched, pseudo-scientific facts and finish up with a tribute to the old schoolhouse on the hill amid great applause, and apparently not know what a joke the whole thing is. Neither is the institute a place for the "cry eye" act. Mere sentiment as such should have no place. The tragic often catches the crowd but it must be evident that there is a better excuse for the institute than to give some "professor" a chance to catch the crowd. Any indication that such a thing is any considerable ingredient in an instructor's purpose should be sufficient reason for dispensing with his services on the spot.

Enthusiasm characterizes every good institute, and yet this is not an end in itself. No one has a right to come before a body of teachers such as will be found in every county in Indiana this year who does not have an educational message which to him is the last and best thing known for the teacher. The instructor should go to the institute with an organized piece of work for the week and not with a dozen disconnected talks. In ten or twelve talks upon a subject worked up with the greatest care an instructor will be able to get before the teachers the basis for a body of educational doctrine, the superstructure for which each must build for himself. Whether it be history, literature, method, nature study, psychology or what not, the work should be organized into a series of exercises. The instructor should be free to choose his line and organize it in his own way. The Superintendent should see to it that he gets the goods for which he is paying and that he does not accept cheap logic for grammar, a bass voice for wisdom, and the story of a moonlight coasting party, or a trip to

the pyramids as an exercise in natural science.

Enthusiasm, interest, joy, less disposition to sell out, should all be found in an institute, but the only legitimate way to secure them is not by seeking them, but by doing a piece of solid work which will give the teachers a more rational basis for their work, and these other most desirable things will all be added.

It is gratifying to know that much of the recent work in Indiana is of this kind.

CHOICE FAIRY TALES.

Imagination is a larger factor in the thoughts and feelings of a child than in the thoughts and feelings of an adult. This truth needs to be recognized in all efforts at wise child-training. The mind of a child is full of images which the child knows to be unreal, but which are none the less vivid and impressive for being unreal. It is often right, therefore, to allow play to the child in his imaginings, when it would not be right to permit the child to say, or to say to the child, that which is false.

A child that is hardly old enough to speak perceives the difference between fact and fancy, and is able to see that the unreal is not always false. Hence a very young child can understand that to "make believe" to him is not to attempt to deceive him. A child in his mother's lap, who is not old enough to stand alone, is ready to pull at a string fastened to a chair in front of his mother's seat, and play that he is driving a horse. As he grows older, he will straddle a stick and call that riding on horseback. Not only is it not a parent's duty to tell that child that the chair or stick is not a horse, but it would be unfair, if not unkind, to in-

sist on that child's admission that his possession of a horse is only in his fancy.

The child is not deceived here to begin with; therefore, he does not need to be undeceived. A little girl was delighting herself with setting a table with buttons for plates and cups, from which she was to serve bread and tea to her invited guests; and she was lovingly grateful for the hearty suggestion of her father that "this tea is of a very fine flavor," when he would have hurt her if he had told her coolly that it was only a dry button which had been passed as a cup of tea. The fancy in this case is truer by far than the fact. There is no deception in it; but there is in it the power of an ideal reality. So it is by the dolls and other playthings of childhood that some of the truest instincts of manhood and womanhood are developed and cultivated in the progress of all right child-training. It is in view of this distinction that the story of Santa Claus may be made one of reprehensible falsity or one of allowable fancy. The underlying idea of Santa Claus is that on the birth night of the Holy Child Jesus there comes a messenger from him to bring good gifts to children. So far the idea is truth. Just how the messenger comes and just who he is are matters in the realms of fancy. The child is entitled to know the truth, and is entitled also to indulge in a measure of fancy. For us to take our child, the night before, and show it all the Christmas gifts arranged in a drawer preparatory to the stocking filling, leaving no room for the sweet indulgences of fancy, would neither be wise nor kind. It would not accord with the nature of the child. Nor, again, would it be wise or kind for a parent to tell the full story of Santa Claus and his reindeers as if it were an absolute literal fact. Children have been frightened by the belief that

Santa Claus would come down the chimney at night, and would refuse them presents if they were awake at his coming; and this is all wrong. The child should be taught the truth as truth and indulged in fancy as fancy. But in the realm of the higher spiritual truth we find it the same as in this realm. To say that Jesus is the Good Shepherd is to present a truth in the guise of fancy; and unless the child is helped to know the measure of truth and to perceive the sweep of fancy, there is a danger of trouble in using Bible figure; for it is a fact that children have suffered from the thought that they were to be literal "lambs" in the Savior's fold. The recognition of the limits between the fanciful and the false needs to be borne in mind at every stage of a child's training. The false is not to be tolerated. The fanciful is to be allowed a large place.

A child can read choice fairy tales, understanding that they are fanciful, with less danger to his mind and character than he would incur in the reading of a falsely-colored religious story book. In the one case he knows that the narration is wholly fanciful, while in the other case he is liable to be misled through the belief that what is both fictitious and false may have been a reality. Not the wholly fanciful, but the fictitiously false, in a child's reading, is most likely to be a means of permanent harm to him. A child's imagination can safely be allowed large play, in his amusements, in his speech, and in his reading. He knows the difference between the fanciful and the false quite as well as his parents do. It is the line between the false and the real in moral fiction that he needs help in defining. It will be "well with the child" if both parent and teacher understand that distinction and are ready to give him help accordingly. In some future ar-

ticle we shall discuss that phase, the most vital one, of child training.

LINCOLN IN THE HOSPITAL.

In a recent conversation with a Union soldier, we heard a fresh story about President Lincoln. As near as possible we tell it in the soldier's words.

I had been in the Finley Hospital several months, said the soldier. One day, in May, 1863, President Lincoln and Secretary Chase walked into the ward where I was lying. You don't know how much good it did us to see them, one gets so tired of looking at the nurse and at the long row of cots. It is hard to lie on a cot day after day, and hear the boys moan, as their life ebbs away.

Some morning you wake up and see an empty cot near you. "No. 6 is gone?" you say to the nurse.

"Yes; he went at three this morning, poor fellow; but it's better for him," she answers, in a sympathizing voice.

We boys, therefore, took solid comfort in looking at Lincoln's face that afternoon, and in hearing him talk. He didn't say much to me, that day, but it was good to hear him say anything, his words were so gentle and kind. And then he was as thoughtful as a mother, he knew just what to say.

I had been very sick. Yes, that sleeve's empty. I left the arm at Chattanooga. As I was saying, he only spoke a few words to me, and passed on to No. 26.

A Vermont boy, a mere lad, not over sixteen, was on it. He had been wounded mortally and was near his end. Mr. Lincoln stopped at the cot, and, taking the thin, white hand, said, in a tone that was as tender as a mother's—

"My poor boy, what can I do for you?"

With a beseeching look, the little fellow turned his eyes up at the homely, kindly face, and asked, "Won't you write to my mother for me?"

"That I will," answered the President, and calling for pen, ink and paper, he seated himself by the side of the cot. It was a long letter he wrote, at least three pages of commercial note, and when it was finished, the President rose, saying—

"I will mail this as soon as I get back to my office. Now, is there anything else I can do for you?"

In some way the boy had come to know that it was the President. And so looking at him in the most appealing sort of way, he asked—

"Won't you stay with me till it's all over? It won't be long, and I do want to hold on to your hand."

That was too much for the great-hearted President to resist. The tears came to his eyes and he sat down by him and took hold of his hand. The little fellow did not move nor speak a word. This was some time before four o'clock, and it was long after six that the end came.

But the President sat there as patiently as if he had been the boy's father. When the end came, he bent over and folded the thin hands over the breast, and then looked so sorrowfully at the pale, thin face. The tears streamed down his cheeks unheeded. We all cried, too.

Do you wonder that "the boys in blue" loved Abe Lincoln?

Speak gently to the erring one; oh, do not
thou forget,

However darkly stained by sin, he is thy
brother yet;

Heir of the self-same heritage, child of the
self-same God.

He hath stumbled in the path thou hast in
weakness trod.

EDUCATIONAL INFORMATION.

MISCELLANY.

CANDIDATE FOR SUPERINTENDENT PUBLIC INSTRUCTION.



CHARLES A. GREATHOUSE.

Charles A. Greathouse, candidate for Superintendent of Public Instruction on the Democratic ticket, is one of the younger generation of school men who are now accomplishing so much for the educational growth of Indiana. He was born July 17th, 1870, in Point Township, Posey County. This county is the most southwestern county in the State and Point is the township located at the junction of the Wabash and Ohio rivers.

Mr. Greathouse was reared on the farm. His father died when the son was but eight years old. He attended the district schools during the winter and in the summer performed the duties falling to the lot of the average boy on the farm.

In the fall of 1884 he entered the Central Normal School at Danville, Ind. Returning home he taught the following year in his

home township, and with the proceeds of the year's work re-entered the Danville Normal and remained another year. The year following he spent teaching in the public schools of Hendricks County. He continued his education at the State University, at Bloomington, for two years and afterwards was principal of the township graded school at Springfield, Posey County. His work here was so successful that he was called by the Board of School Trustees of Mt. Vernon to the principalship of the Central Building, the largest ward school in the city.

In this line of work Mr. Greathouse was eminently successful. He proved himself very efficient in administrative qualities, and in 1895, upon the resignation of Walter W. French, as superintendent of the schools of Posey County, was chosen as his successor. He has since been twice unanimously re-elected by the Board of Township Trustees, several of whom differed from him politically, and during his term of office has discharged the duties thereof with vigor and to the satisfaction of all. The schools of Posey County rank with the best in the State, and much of their efficiency is due to the healthful, energetic administration of Mr. Greathouse. His varied experience as a teacher, covering the work of the school from the rural district through the high school, gives him a thorough knowledge of the needs of our schools, which, should he be elected, would mean much in a correct understanding of the duties of the office to which he aspires.

During his term as a teacher he was a diligent student, applying himself at all times possible, to assist him in becoming proficient in his chosen profession; and upon examination by the State Board of Education, in 1895, he was granted a State License.

In addition to his educational qualifications, he is an affable and pleasant gentleman. He has had some experience as a public speaker and has responded to numerous calls to address educational and social gatherings.

Mr. Greathouse is a self-made young man. The rise in his profession, which has been steady, has been accomplished solely by his own efforts, and if successful at the approaching election, the affairs of the Department of Public Instruction, with him at its head, will be in good hands and will be administered with the same zeal and credit that have heretofore characterized the work of that office since its establishment.

ROSE POLYTECHNIC INSTITUTE.

The commencement exercises of this institution were unusually attractive this year. The address of the occasion was given by Winfield S. Chaplin, Chancellor of Washington University, and the alumni address by William A. Boehm, of Clemson College. Both addresses were strong and helpful.

HANOVER COLLEGE, 1900.

Class Roll.—John Harris Adams, Herbert Dickey Brittan, Frank Joseph Burger, Guy Campbell, Victor Barr Demaree, Frederick Shipp Deibler, Lon Dallas Heminger, Edward Otto Heuse, Samuel Wilbur Huffer, Augustus Taylor Schleich, Mary Torrance, George Howell Wilkins.

HIGH SCHOOL GRADUATES.

In addition to those published last month, the following have been compiled:

Anderson, 44; Bedford, 10; Evansville, 47; Frankfort, 35; Greensburg, 29; Ligonier, 12; Madison, 24; Mishawaka, 6; Portland, 22; Princeton, 13; Richmond, 28; Rochester, 12; Salem, 8; Summittville, 5; Vincennes, 13; Washington, 27; Waterloo, 10.

ORATORICAL CONTEST.

The Southern Indiana Oratorical Association held its annual meeting at Mitchell. The high schools which are members of this association are Bloomington, Bedford, Paoli, Washington, Mitchell, Orleans and Salem. Miss Nellie Kemp, of Salem, won the first prize and Miss Virginia Head the second. Both these young ladies won laurels in their orations. The judges were J. C. Edwards, of Bedford; Simpson Low, of Mitchell, and C. E. Prosser, of New Albany. The friendly spirit of rivalry shown is to be commended most heartily.

KOKOMO.

Kokomo expects to build a twelve-room building the coming year, provided that the Supreme Court of the State decides the case known as the Indianapolis School case favorably to the schools of the city. Several cities are in the same financial condition as Indianapolis, viz., have reached the limit of their indebtedness unless the court decides otherwise.

NEW ALBANY HIGH SCHOOL.

The New Albany high school captured both prizes at the State contest of essays under the management of the Sons of the Revolution. Alice Devol captured the first prize, with an essay on "George Rogers Clark's Expedition;" Mae Starr the second, with "Burgoyne's Expedition." Miss Frances Fawcett deserves credit for the careful training of these pupils in English composition.

FRANKLIN COLLEGE GRADUATES.

Elijah Arthur, Emerson Wayland Chaille, Elizabeth Clark, William Otho Curtis, Ella Dunn Dean, Joseph Kinmont Hart, Stella Myrtle Jacobs, Mary Myrtle Jerman, Estelle Jones, Earle Dudley Kelly, Martha Lena Merrick, Bertha Melville Miller, Grace Blanche Mullikin, Fred Neel, Emma Florence Ogle, Charles Melvin Phillips, Marcus Schaaf, Ezra Allen Van Nuys, Fred Campbell Whitcomb, John Stanley Williams.

NORTHERN INDIANA NORMAL SCHOOL.

The recent and extensive improvements that have been made in the Northern Indiana Normal School, have added much to the appearance of the buildings and grounds, but the great advantage to the school equipment will be felt in the management of the constantly increasing number of students. Few schools maintain the enthusiasm as does this school, and we heard a student express this thought tersely when he said: "One took away enough enthusiasm to pay him for attending, but the work is not only good but constantly growing better." The school has been a marvel of its kind and is becoming more helpful through the many excellent improvements recently made.

PULASKI COUNTY NORMAL SCHOOL.

The Pulaski County Normal, for the benefit of teachers and advanced students, will open at the Winamac High school building, in Winamac, Ind., on Monday, July 23, 1900, at 10 o'clock a. m., and continue in session six weeks, closing with one week of County Institute. Instruction will be given in the common and high school courses of study as adopted by the County Board of Education. The instructors will be J. H. Reddick, County Superintendent Public Schools; A. T. Reid, Superintendent Winamac City Schools; Clarence Reid, Principal Star City High School, and Edgar Packard, of the city schools.

HONORS FOR COLUMBUS HIGH SCHOOL.

Superintendent Carnagey is very much elated over the announcement from the State University that two of his graduates of that high school have taken both first and second places in the contest for the John W. Foster prizes for the best papers on a selected subject in American history.

Dudley O. McGovern secures first prize for the second time, and Mattie B. Lacy the second.

Superintendent Carnagey is, of course, very much elated over the matter, as it gives his students and the schools of Columbus high standing, not only in Indiana but in adjoining States.

He is especially glad of this distinction in history, for he has been striving for the last six or seven years to put the history and literature departments in his high school in the front rank with any in the State.

Competent judges among school men who visit these schools say that Superintendent Carnagey has the best and most complete history work they know of in the schools of this State.

In his manual for the schools he states that it should be the purpose and function of the common schools to make of their pupils good citizens. "One of the best agencies," he said, "for this work is history."

It takes years of hard work and planning to build up a good system of schools, and it is only possible when the people themselves stand loyally behind every movement

that is made in the interest of the best educational progress.

THE MADISON PUBLIC SCHOOLS.

The work of the public schools closed yesterday. Never in the history of the Madison public schools have the schools been upon such a high plane of excellence. The good work accomplished has been a common comment in educational circles.

A taste for art has been created by the efforts of the Art Association in placing copies of masterpieces in the various school rooms of the city. It is surprising how much the pupils enjoy them. It is hoped that in the next year a corresponding number of pictures may be placed in the various schools of the city.

The teachers are energetic, thoughtful and conversant with the best methods of the day. Their enthusiasm for their work was shown by the large number who took courses of instruction last summer, and the large number who will avail themselves of a like privilege this summer.

A fitting climax to the excellent work done this year began with the commencement of Broadway school, continuing with the junior night, commencement of city high school and ending with the banquet of the Alumni Association. The thought and delivery of the graduates clearly demonstrates the thorough work done in the high schools.

No one has worked harder for the accomplishment of the above results and no one deserves more fully the commendation of the school patrons than Superintendent McDaniel. In season and out of it he has labored thoughtfully, skillfully and earnestly to make the Madison schools the best in the State.

Yesterday afternoon at the last general teachers' meeting the teachers of the city, through Miss Middleton, principal of the lower seminary, expressed their high regard for him as a careful, painstaking superintendent, and appreciation of his kindness toward them and support in the many difficulties arising during the school year.

It is to be hoped that the next year may be more successful than the past, and that the school patrons and public at large may give an even heartier support to the schools than in the past.—Herald.

EARLHAM COLLEGE.

Commencement week at Earlham College was an unusually pleasant one. The weather was fine throughout and attendance on the exercises large. On Friday evening, June 8, occurred the annual recital of the musical department. Saturday evening the annual elocutionary entertainment was given. The baccalaureate sermon was delivered on Sunday morning by President J. J. Mills. On Sunday evening the address before the college Christian associations was delivered by Prof. D. W. Dennis. Monday evening the Ionian and Phoenix Literary Societies gave their annual entertainment. Tuesday morning the Junior class gave their class-day exercises. Tuesday evening was the occasion of the Quinquennial Alumni Banquet. It was held in the Westcott Hotel, which had been beautifully decorated for the occasion. More than two hundred persons were present to enjoy the occasion and all will remember it with pleasure. The commencement exercises occurred Wednesday morning, June 13. A class of thirty-nine received the Bachelor's degree and the degree of Master of Arts was conferred upon two candidates. The commencement address was given by Dr. W. F. McDowell, ex-Chancellor of the University of Denver. It was a masterly presentation of correct educational ideals and it was greatly enjoyed by the audience.

The year has been one of marked prosperity for the college. The attendance of students has been greater than usual and the financial resources of the college have been largely increased.

The inside of the college auditorium has been beautifully decorated.

"Reid Park," the new athletic field, has been enclosed and graded. A grand stand seating 600 people will be erected during vacation and with the opening of the foot-ball season in the autumn Earlham will have one of the best athletic fields in the State.

Mr. Allen D. Hale, of the class of '97, will next year become instructor in mathematics and German.

The course in philosophy has been extended and a department of pedagogy established. Students now have opportunities for one year of work in psychology, one year in the history and philosophy of educa-

tion and one year in philosophy. The work will remain under the direction of the Vice-President, Dr. J. F. Brown.

Dr. Gerber will spend his summer on the continent.

Professor and Mrs. Sackett will see England, Scotland and Ireland during vacation.

The Earlham summer school will begin July 19.

HIGHLAND PARK COLLEGE, DES MOINES, IOWA.

Announcement has just been made of the organization of the Correspondence School of Highland Park College, with Dr. Henry Sabin, ex-State Superintendent of Public Instruction, as conductor.

In view of Dr. Sabin's long and useful career as a public school man, and his recognized eminence in educational circles, we are certain that the readers of our paper will be interested in his future plans. His fitness for superintending correspondence instruction for teachers will be very greatly appreciated by Highland Park College.

MARSHALL COUNTY NORMAL.

The Marshall County Normal School will open at Plymouth on Monday, July 16, and will continue in session until the opening of the County Institute, August 27, 1900.

Recitations will begin Monday, July 16, at 1:30 p. m., and close Friday, August 25. We have been fortunate in securing the large, airy and commodious room known as Kuhn's Hall, in which to hold our sessions. The room is easy of access and is fitted with all modern improvements; lavatory, electric lights, sewer service, etc. This improvement will be appreciated.

Every live teacher admits that a portion of the summer vacation should be spent in a better preparation for the work. To those contemplating teaching we feel positive that our work will be especially helpful.

EDUCATIONAL PRESS ASSOCIATION OF AMERICA.

Members of the Executive Committee: Geo. P. Brown, Bloomington, Ill., President; John MacDonald, Topeka, Kan., Treasurer; H. R. Pattengill, Lansing, Mich., Secretary; C. W. Bardeen, Syracuse, N. Y.; J. H. Miller, Lincoln, Neb.

The following is a revised list of the educational journals of the E. P. A., June 1, 1900:

Paper	Postoffice.
American Journal of Education.....	St. Louis, Mo.
American Primary Teacher.....	Boston, Mass.
Art Education.....	New York, N. Y.
Canadian Teacher.....	Toronto, Can.
Colorado School Journal.....	Denver, Col.
Florida School Exponent.....	Jacksonville, Fla.
Indiana School Journal.....	Indianapolis, Ind.
Interstate Review.....	Danville, Ill.
Journal of Education.....	Boston, Mass.
Kindergarten Review.....	Springfield, Mass.
Louisiana School Review.....	Natchitoches, La.
Michigan School Moderator.....	Lansing, Mich.
Midland Schools.....	Des Moines, Ia.
Missouri School Journal.....	Jefferson City, Mo.
Ohio Educational Monthly.....	Columbus, O.
Pennsylvania School Journal.....	Lancaster, Pa.
Popular Educator.....	Boston, Mass.
Primary Education.....	Boston, Mass.
School Bulletin.....	Syracuse, N. Y.
School Education.....	Minneapolis, Minn.
School Gazette.....	Harrisburg, Pa.
School Journal.....	New York, N. Y.
School and Home Education.....	Bloomington, Ill.
School News and Practical Educator.....	Taylorville, Ill.
Southern Educational Journal.....	Atlanta, Ga.
Southern Schools.....	Lexington, Ky.
Teachers' Institute.....	New York, N. Y.
Teachers' World.....	New York, N. Y.
Texas School Journal.....	Austin, Tex.
Virginia School Journal.....	Richmond, Va.
Western School Journal.....	Topeka, Kas.
Western Teacher.....	Milwaukee, Wis.
Wisconsin Journal of Education.....	Madison, Wis.

TO SCHOOL SUPERINTENDENTS:

A great fire in Bloomington has destroyed six blocks in the center of the business portion of the city. Among the buildings consumed was the one in which the offices and storeroom of the Public-School Publishing Company were located. The vault containing the accounts of the Company and subscription books of School and Home Education (formerly the Public School Journal) crumbled in the general ruin. A large amount of valuable property, the accumulation of years, is reduced to ashes.

We are compelled to ask the aid of superintendents of schools and other friends in reproducing the subscription list to the Journal.

May we ask you to place us under additional obligations by sending us the names and addresses of all the teachers in your schools, and by designating so far as you may be able, those who are now receiving the Journal. We hope in this way to be able to continue to send the Journal to all subscribers.

You can imagine how difficult an under-

taking it is to reproduce a large subscription list when once destroyed, and we thank you in advance for the assistance we know you will cheerfully give us in our efforts to retrieve some of the loss caused by this disaster.

Yours very truly,

PUBLIC SCHOOL PUBLISHING CO.,

Geo. P. Brown, President,
Bloomington, Ill.

INDIANA HISTORY TEACHERS.

The third annual session of the History Section of the Indiana State Teachers' Association met Friday, June 15, 1900, at 2:30 p. m., in Room 26 of the Grand Hotel, Indianapolis.

Professor Hodgkin, of Earlham College President, called the meeting to order, and, having received the consent of those present to dispense with the reading of the minutes of last meeting, introduced Mr. Fred Austin Ogg, whose paper on "The Present Status of History Teaching in the High Schools of Indiana" was the first on the program.

Mr. Ogg first spoke of the recent rapid growth in the number and efficiency of Indiana high schools, but said it was his purpose to present the facts of one particular phase of high school work.

He had sent out about 200 circulars, asking for information on three phases of history work, viz., teachers, courses and methods employed. Of these, about one-half evoked useful answers. These returns were interesting and various, and, recognizing that the results are by no means complete, the speaker thinks they may be considered representative, all counties in the State, excepting ten, being represented, and all classes of schools.

As to results on the question of teachers, he found that of the 394 high school teachers of the State, 128 are teachers of history, of whom but twenty-two are teachers of history alone. He finds that comparatively few have had special training in history, and that but one-fifth the number of history teachers have made that their major in college.

As to courses, it was discovered that by

far the majority of schools reported offer but two years, sixteen having a three-years' course, two four years, and one none; that fifty-three offer a special course in American history, the same number a course in English history, while twenty have one-half a year each in Roman and Grecian history. The text used are encouraging, most of those reported being by the latest and best authors, and a change for the better seems to be general; also, effort is being made by several teachers in the use of original sources, in American history especially.

Of the seventy-one high schools offering a course in general history, ten offer courses two years in length, a few one and one-half years, and the very large majority but one year.

As to methods he found two prevailing; the one teaching general history as a whole, the other teaching specific courses in Greek, Roman, French, English, American, etc. A slight majority of teachers seem to favor the first method, for the reasons that it is more unified, and that many pupils are not able to remain for the entire number of specific courses.

He found it general for the American history to follow the work on other countries, which method he believes to be correct. As a result of his investigations he makes the following summary of the weak points in high school work at present:

1. So few teachers specially prepared for their work.
2. Lack of library facilities.
3. Prevalence of short courses in general history.
4. Tendency to offer courses of less worth, thus slighting more important periods; and the need to guard against making the high school a miniature university.

5. Lack of appreciation of history work.

As a good sign he calls attention to the spirit of unrest on the part of the teachers, which manifests a desire for improvement.

The next number was a paper by Miss Messmore, of Terre Haute high school, on "The Report of the Committee of Seven on History in the American Secondary Schools."

She spoke of the widespread influence of this report and of the great care with which it was prepared. The former low estimate

put upon history in the secondary schools seems to have been the fault of college requirements in history, which have always been very low.

The committee views the purpose of history as three fold, a training in citizenship, giving ideals at the time when they are of greatest value for mental discipline. It takes a conservative position in reference to correlation of subjects.

The course proposed by the committee for the high school consists of two years of general, and one of English history. Miss Messmore asks, "Would not three years of general history be better, with special work on English and American history?" The work proposed is to be given in periods or "blocks," and no block is to end with a date.

Miss Messmore offered the following outline of work in medieval history, and asked the criticism of the Section upon it.

1. Causes of the dissolution of Charlemagne's Empire.
2. Feudal systems.
3. Migration of Normans and Danes, King Alfred.
4. The Christian Church and its growth.
5. Spain.

She next spoke of the great value of collateral reading under the direction of a knowing teacher, of students outlining work independently, and of student lectures.

Miss Baylor, of Wabash, emphasized the helpfulness of correlation of history and other subjects, especially English. She spoke also of the value of studying the current history of those countries studied in general history.

Professor Moran, of Purdue, followed, being particularly interested in the outline suggested. He thinks it is not too difficult, that its strong points are in the fact that it includes much of the philosophy of history, gathering meaning from facts; showing relation between cause and effect.

Professor Kemp, of the State Normal, commended the paper. He does not think the course too difficult, since what we ought to study in history is not a date nor a country, but the development of ideas. He thinks we should see in France and Spain the outgrowth of the Roman ideas of empire; that in England and Germany we should see the

development of Teutonic life and character. Having studied these ideas, and seen influencing and being influenced by them, the growing idea of Christianity, he thinks we are ready to understand more perfectly the conflict between these ideas when they meet in America. He believes it is the sameness of history in high school and college that should be emphasized, not the difference.

Miss Thompson, of Indianapolis, then spoke, agreeing with Mr. Kemp. She talked at some length on the value of topical study of history in comparison with text-book work.

President Hodgkin then appointed the following committee to nominate officers for next year: Superintendent Haines, Professor McAuley, Professor Lindley, Miss Thompson and Miss Palmer.

The Section then adjourned to meet at 8 p. m.

At 8 o'clock President Hodgkin called the meeting to order and announced Superintendent Hendrick's paper on "The Report of the Committee of Seven on History Work Below the High School."

Mr. Hendricks stated first that this report does not really belong to the entire Committee of Seven, but is the work of one member, Miss Salmon. She compares history work in American schools to that done in Germany, and offers the following criticisms on American schools:

1. The courses are not uniform. (Our courses represent the idiosyncracies of individuals rather than the judgment of the many.)

2. No definite understanding of the place history should occupy. The generally accepted idea that its purpose is to promote patriotism being too narrow and inconsistent.

3. The ultimate object of history study is a search for truth, but that the student should accept the result of knowing the truth is not understood. That the exclusive study of United States history has no right in the course, since it should be seen as a result of other history, and it is unfair to view it in any other light. (Mr. Hendricks thinks State history isolated, is an artificial study and of little worth.)

4. A closer correlation of history, geography and literature needed.

5. Slavish use of text.

The following course is suggested by Miss Salmon:

Third Year—Greek, Roman and German myths.

Fourth Year—Biographies—eighty are suggested, from eight different countries.

Fifth Year—Greek and Roman history, to 800 A. D.

Sixth Year—Medieval and modern European.

Seventh Year—English.

Eighth Year—American.

This work is supposed to cover two circles, the first in the third and fourth years, where the work is wholly oral and follows no definite sequence; the second from the fifth year, where the regular systematic work begins, to the eighth. Both of these circles are preparatory to the final survey in the high school.

Mr. Hendricks differs with the author as to where history work should begin. He thinks it should begin with the first year, but believes the work here outlined better than that based on ten boys.

He would suggest these changes in the course:

1. Begin the work outlined for the third year in the first. Take the work outlined for the fourth year in third and fourth.

2. Put the period of discovery in the sixth year, and the period of colonization in the seventh.

This plan will give more time to home history.

He suggested these lessons that we might draw from German schools:

1. The course should be complete.

2. The teacher should have special preparation.

3. Correlation of history and other subjects.

4. History should be given a more important place and more time.

Miss Lydia Blaich, a supervisor in the Indianapolis schools, led in the discussion of this paper. She urged the necessity of co-operation through the different schools and of teachers of different subjects. She

spoke also of the great lack of uniformity in State courses and the lack of appreciation of history work generally. She answered forcibly the argument against history in the grades on the basis of overwork and the inability of children to understand it.

The speaker thinks with the committee that our grammar grades are our weakest point; urges a closer union of history and literature, and makes a plea for a broader patriotism than that bounded by lines on the map. "No citizen can know and love his own country who does not understand and appreciate the achievements of other countries."

The speaker compared the State course of study to that used in the city of Indianapolis, and gave her reasons for preferring the latter. She emphasized the necessity for correlation in the grades for enthusiastic and scholarly teachers, and as an aid to secure the latter, departmental work in the grades.

The next number was a paper by Superintendent Carnegie, of Columbus, on "Collateral Reading with History Work."

His paper presented two questions and attempted to answer them. First, "Why Has History been Uninteresting to Children?" Second, "How can it be made Interesting?"

His answer to the first is that history has been taught as a collection of dry facts, a jumble of dates, battles, discoveries and men that belong to the past and are dead. They are away from the child's life and have no interest for him.

The change is coming, he believes, through teaching that leads the child to realize that those men are not dead, that their work lives around him, and makes his world for him. That it comes through literature which makes all those past events real to him, that brings the interest of great lives of the past to be the child's own interest now.

Mr. Carnegie believes that the true stories of history, filled as they are with the life and efforts of men, are the most interesting things that can be put before children, and that history teaching can be most improved by bringing literature into close relation with it, as well as art, architecture and all that gives the life of the past to the children of the present.

The session then adjourned to meet at 9 o'clock a. m., Saturday, June 16.

On Saturday morning the meeting was again called to order by Professor Hodgkin. It was opened with Dr. Woodburn's paper on "The Presentation of History in County Institutes."

He spoke of the former purpose of institutes as that of a place to coach teachers on second-hand principles of pedagogy. He emphasized that what teachers need are first-hand truths given by men who are truth-seekers and discoverers. He spoke earnestly of the necessity for unity in the institute work as a whole, then asked, "What shall we do with history?" He made these points:

1. The instructor should be interested in history.
2. He should enlarge the teacher's knowledge. Teachers need the culture that comes from knowledge, not method.
3. Teachers must be led to know the sources of their subject. There are many sources, but the principal one is books. Books are the teacher's tools; the instructor should introduce him to the best and show him how to use them.
4. The teacher should be taught to analyze and outline his subject.

Can this be done in county institutes? The speaker believes it can; that the institute is an opportunity to advance knowledge and interest. Let study in institutes be made intensive along a single theme rather than extensive. The speaker thinks that the five lessons of the institute week should be on the different phases of one subject, and suggests a number of subjects to be thus analyzed and presented.

1. The formation of the Union.
2. Our foreign relations under Washington.
3. Early slavery controversy.

The plan involves:

1. Preparation and knowledge on the part of the instructor.
2. Participation of the institute.
3. Presence and actual use of books.

Dr. Woodburn thinks less should be attempted in the week of institute and more thorough work done.

The discussion of this paper was led by

Supt. George R. Wilson, of Dubois County. He gave a list of ten subjects which he thinks the teachers of the State would like to hear treated in the way Dr. Woodburn suggests:

1. Liberty—Its origin and growth.
2. Constitutions—How they originated. First appearance in America, growth here.
3. Trial by jury—Origin and growth.
4. Blackstone—As history.
5. Growth of learning.
6. Inventions.
7. Formation, supply and movement of armies and navies.
8. Political parties—Formation, principles they stand for. Right to hold public meeting.
9. Individuality. Not a disgrace to surrender individual rights for the good of others. Right of eminent domain.
10. Growth of institutions.

The discussion then became general.

The last paper on the program was given by Prof. W. S. Davis, of Richmond. The subject—"Indiana History, How Much and Where in the Course?"

Professor Davis questions the importance of State or even national history in the light of the growth of institutions of men in all times and places. But if we must choose between a slight knowledge of universal history and a deeper knowledge of one country he thinks it no mistake to choose our own nation, since it is the outgrowth of the rest, and a knowledge of its institutions is necessary to intelligent citizenship.

He thinks that the place of State history is in the development of national history. That the separate study of single States is not necessary to know the important points of State history, that the unity of history is broken if these are taken out of their national setting. He discussed several important points of Indiana history and showed their place in national history. Thinks it not unfortunate that national history has received first place, although Indiana certainly has many things in her history worthy the study of her people.

He wrote to a great number of history teachers in the State to find out what is

being done in the way of Indiana history. The results simply show that "chaos reigns with regard to it." There are a number of schools giving courses in State history, none being longer than one-half year. The tide of this work seems rising, greatly due to the work of Indiana men who are interested in it.

The speaker thinks that the work on State history should begin in the grades, as incidental work, and carried on through; that later there should be a special text in Indiana history; that we should have an Indiana day; that students should write on local history and connect things of the present to their ancestral past; that the use of the press would be a benefit in the work, especially of such papers as *The Indianian*; that Indiana heroes should be studied and that all this work should be done in the light of and in connection with national history.

Discussion.—Mr. Kemp called on Professor Hodgins as father of the work in State history to discuss the paper. He endorsed the conclusions of the paper, but thinks the field of State history a broad one that should be cultivated to make the children feel that they are living in and making and to make history themselves.

The Nominating Committee then made its report, which was as follows:

President, Prof. T. F. Moran, Lafayette.
Vice-President, Mr. N. C. Helronimus, Richmond.

Secretary, Miss Messmore, Terre Haute.

Treasurer, Mr. D. O. Coate, Shelbyville.

Executive Committee, Dr. Stevenson, Depauw; Miss Olive Batman, Anderson; Miss Katherine Kinerk, Wabash.

This report was accepted by consent.

A motion was carried that the incoming secretary be instructed to nominate history teachers of the State members of the history section, with the instruction that payment of a fee of 50 cents be necessary to make them full members.

The Section then adjourned to await the call of the executive committee.

HENRIETTA BLAND,

Secretary.

PERSONAL.

J. C. Orr, of Albany, has been elected Superintendent of schools at Redkey. His work at Albany has been satisfactory, and the school board reluctantly released him.

Mary Peed and Nell Albright, two of Elwood's ambitious teachers, after a year's absence for study, have returned, expecting to re-enter their respective fields of labor in September. It is expected that the enthusiasm with which they will renew their work will help the whole school.

F. D. Churchill, of Oakland City, goes to Huntingburg next year, and J. T. Worsham, of Huntingburg, succeeds him at Oakland City. Both had given good service in their respective fields and both consented to exchange places. The Journal hopes to record the success of each in the new field equal to that they achieved in the old.

Miss Minnie B. Ellis, State Normal '91. I. U. '95, has been elected Superintendent of the Kentland schools. For the last three years Miss Ellis has been Principal of the high school at this place, and it was her success in that position which won her promotion. She will spend the summer in post-graduate work at Indiana University.

Dr. Daniel Sigler, now serving his twenty-first year as a member of the school board of Elwood, is, we believe, the oldest member in point of service in the State. But few men have had a more unique experience, as he has seen the place grow from a small town to a thriving city in less than one-half his term of service as school trustee.

Supt. J. F. Haines continues at Noblesville by the unanimous vote of the school board. His long and successful term (thirteen years) is one of the best evidences of his ability. We are sure that he has been untiring in his efforts to improve the schools from the first and their standing at this time attests his fitness for the place he fills.

Horace Ellis has moved his family to Franklin, his field of labor for the coming year. The citizens of West Lafayette gave him many expressions of their appreciation of his excellent work in the schools of that

place. The people of Franklin will find him and his family active in all that tends toward the betterment of all social conditions, and untiring workers both in and out of school.

Supt. T. F. Fitzgibbon has been re-elected for the eleventh year at Elwood. He will add five new teachers to the corps next year, making fifty-three. In 1890 there were but eight teachers, so it is easily seen what a peculiarly difficult problem he has had to meet and solve as the remarkable growth of the city's population. Superintendent Fitzgibbon is cool and careful, as well as methodical in his work, hence his marked success at Elwood.

W. A. Jessup has been elected Principal of the Washington Township graded school in Hamilton County, situated at Westfield. This is one of the few township high schools that have been commissioned by the State Board of Education. It is a good school, the educational sentiment of the township is excellent, so his new field is an inviting one. The Township Trustee is B. C. Sherrick, one of the most progressive school trustees in the State.

E. H. Drake, of Kentland, has been elected to the superintendency at Attica made vacant by the resignation of Superintendent Millis, who goes to Crawfordsville. Mr. Drake is a young man of fine attainments and full of genuine enthusiasm for his work. His plans are carefully considered before he executes them, so whatever he undertakes bears the stamp of his convictions. We bespeak for him a successful career in Attica and for our schools a continued prosperity under his wise leadership.

S. W. Satterfield, teacher of science in the Elwood High School, was prostrated with typhoid fever during the school year just closed, but his rapid recovery indicates that he will be ready for his work in September. The disease attacked him in its worst form, but his vigorous constitution carried him through successfully. His long and trying term as a student, by which he has prepared himself especially for his profession, no doubt sapped his strength, thus giving the disease a strong hold upon him at the first.

W. H. Kelley, of the Bluffton high school, has resigned on account of his health. He expects to engage in farming or some other outdoor business. In his letter to the Board tendering his resignation, he urges the Board to introduce manual training, art work and the purchasing of works of art, physical culture given in the gymnasium. He also refers to the practical benefits resulting from high school athletics, high school orchestra and glee club and class entertainments.

Supt. R. A. Ogg, of Kokomo, reports the school year as one of the best in the hearty co-operation of both teachers and patrons. There is in that city a Parents' League, which meets regularly, and always the attendance was quite good. At these meetings Superintendent Ogg was asked to speak and in this way he was able to bring to the attention of the parents many points of needed reform in school management and school studies. The plan has worked so well here that other cities may find this an excellent model.

W. P. Burris, formerly Superintendent of the Bluffton, Ind., schools, has resigned his position as Superintendent of the Salem, Ohio, schools, to spend a year in study abroad. In his letter of resignation to his school board he says: "The fulfillment of a long-cherished purpose to further pursue studies in education, including some observations of foreign school systems, together with a conviction that this, rather than a year later, would be the better time to sever my connection with these schools, constitute the grounds on which I request release at this time." He has been at Salem, Ohio, three years.

H. B. Brown, President of the Northern Indiana Normal School, reports the completion of extensive additions to his already commodious buildings. This will give larger quarters to many departments and facilitate the work of the school in a great measure. In the erection of the new buildings, great care has been taken to make them modern in every particular. The lighting is perfect and the heating and ventilation after the

most improved plans. The school will not only offer better inducement than ever before in the way of increased facilities in its class rooms, but the corps of instructors will be strengthened and enlarged. It seems that President Brown is fully determined that no backward steps shall be taken while under his control. After all there is nothing more remarkable about this remarkable school than the fertility of resources shown by its President.

Prof. C. T. Lane's resignation from the superintendency of the Fort Wayne schools was in deference to that unanimous public sentiment which has regarded Superintendent Study's removal as altogether without cause and wholly unwarranted. The people of Fort Wayne have looked upon the removal of Superintendent Study as a proceeding that ought to be set aside if possible. Reorganization of the school board made it possible if Professor Lane would consent to abrogation of his contract with the former school board. Professor Lane has unselfishly risen to the occasion, putting the public schools and their welfare first in his consideration. It is no ordinary spirit of courage and unselfishness that is equal to such a sacrifice of financial considerations and personal ambition, for it might well be the ambition of Professor Lane or any instructor in the public schools of Indiana to attain to the superintendency of the Fort Wayne schools. The reappointment of Superintendent Study effectually stops further embittered and demoralizing agitation of the school question and gives tangible expression and imperative force to aroused and indignant public sentiment that has condemned from the very outset the summary dismissal of Superintendent Study. Professor Lane has honored himself and the people of Fort Wayne will, therefore, honor him. We believe that no opportunity to substantially express their high appreciation of his gracious and generous action will be allowed to pass unimproved by the citizens of this city. Meanwhile the whole distressing affair has been resolved into a state of complete settlement which there is no occasion to further disturb.—Fort Wayne Gazette.

WHERE THEY ATTEND SCHOOL.

R. M. Grindle, L. T. Turpin, E. E. Jones, of Kokomo, State University; Mary Combs, Elwood, Bay View; Anna Trueblood, Elwood, State Normal; Lillian Edwards, Kokomo, Misses Irwin and Oglevee, Elwood, Winona.

PROFESSOR DAVID W. DENNIS.

We are pleased to acknowledge the receipt of announcement of the marriage of Professor Dennis and Clarissa E. Zellar, at Richmond, Ind., June 14. A host of ardent friends will join the Journal in bespeaking for them a happy life.

JOHNS HOPKINS UNIVERSITY HONORS AN INDIANIAN.

The John Marshall prize for 1900 has been awarded by the Johns Hopkins University to James Morton Callahan, Ph. D., for the work entitled "Cuba and International Relations," recently published. The prize, consisting of a bronze likeness of Chief Justice Marshall, is awarded annually for the best book written by a graduate of the university upon some subject in historical or political science.

Dr. Callahan has been engaged in historical research at Washington, and has given several courses of lectures on diplomatic history at Johns Hopkins University. He has recently been at work on a volume which treats of "The American Expansion Policy," and another one tracing the history of "America in the Pacific."

J. T. WORSHAM.

In speaking of the election of Prof. J. T. Worsham, of Huntingburgh, as Superintendent of the Oakland City schools, the Huntingburgh News says:

"The Oakland City School Board, probably believing in the old saying that 'a fair exchange is no robbery,' has unanimously chosen Prof. J. T. Worsham as Superintendent of the schools of that place to succeed Prof. F. D. Churchill, who comes to this city. This action was taken at a meeting of the Board held Monday, after duly considering twenty-two applications for the position.

"That Professor Worsham should have been the unanimous choice of the Board out of so many applicants is, indeed, a high compliment to his standing as an educator, and one which the News believes is most

worthily bestowed. His school work of the past six years in this city has been of a high order of excellence, a fact which has been recognized and acknowledged by higher schools and colleges, which some of his pupils have subsequently attended.

"As citizens, Professor Worsham and his estimable wife command the respect and esteem of everyone, and while all will regret their departure, it is a matter of congratulation that their lines have fallen in such pleasant places, and that they will not be far away."

BUSINESS NOTICES.

THE PLACE TO GO.

THE SEASHORE IS THE IDEAL SPOT FOR OUTINGS AND VACATION TRIPS.

It will cost only \$15 for round trip from Indianapolis to either of the ten famous resorts: Atlantic City, Cape May, Avalon, Anglessea, Holly Beach, Ocean City, Sea Isle City, Wildwood, New Jersey, and Rehoboth, Delaware, and Ocean City, Maryland. Tickets will be sold Thursday, August 9th, via Pennsylvania Lines, the all-rail route to the sea. For particulars apply to W. W. Richardson, D. P. Agent, Indianapolis.

TEACHERS—ATTENTION.

You should make your vacation, as well as all your spare time, profitable, and can do so, as in no other way, by taking orders for the most popular subscription books published. New books of history, biography, and travel. Also books for The Campaign. Most liberal terms ever offered and exclusive territory given every agent. Do not delay but write at once to the Standard Book Agency, 1131 Stevenson Building, Indianapolis, Ind.

SUMMER OUTINGS

WHERE TO GO AND HOW TO GET THERE

The Seashore, Mountain and Lake Resorts constitute the most attractive pleasure grounds for the summer idler. They are within easy reach via Pennsylvania Lines, and agents of that railway system will furnish full information about rates, train service and through car comforts to any of the summer havens. They will assist in arranging details for vacation trips and give valuable information free of charge. Apply to the nearest Pennsylvania Lines Passenger

and Ticket Agent and be relieved of all bother in shaping preliminaries for your summer outing and vacation trip.

W. W. RICHARDSON,
District Passenger Agt., Indianapolis, Ind.

AN OUTING AT THE OCEAN.

SEASHORE EXCURSION VIA PENNSYLVANIA LINES WILL BE
RUN AUGUST 9TH.

The annual low rate excursion to the seashore will be run via Pennsylvania Lines, Thursday, August 9th. On that date reduced fare tickets will be sold to Atlantic City, Cape May, Anglesea, Avalon, Holly Beach, Ocean City, Sea Isle City, Wildwood, N. J., Rehoboth, Del., and Ocean City, Md. The round trip from Indianapolis will be \$15.00 to either of the ten resorts mentioned, which constitute the most popular summer havens along the Atlantic coast. No more enjoyable vacation outing can be planned than a visit to the seashore in midsummer. Arrangements may be made for participating in the pleasures offered by this excursion by communication with W. W. Richardson, D. P. A., Indianapolis, Ind.

TO WHOM IT MAY CONCERN.

In balancing the books of the Indiana State Teachers' Association, I find the stubs numbered from 788 to 802, inclusive, blank. If the persons having the receipts, numbered as indicated above, will send in their names and the amount each one paid, I will fill these blanks and credit them on the books of the Association.

Respectfully,

JAMES R. HART,

Secretary and Treasurer.

Lebanon, Ind., June 25, 1900.

BOOK REVIEWS.

We have received from The Macmillan Company the following handy volumes: Lowell's "Sir Launfal," Milton's "Paradise Lost," Shakespeare's "Julius Caesar," Scott's "Lady of the Lake," DeQuincy's "Opium-Eater." These little volumes are printed on excellent paper with clear type. They retail for 25c each. They are all bound in boards.

Schools and colleges have long desired a comparatively brief collection of the very best German Lyrics and Ballads, and such as are of the most general interest for American students, and most generally desirable

for class-room use. D. C. Heath & Co., Publishers, Boston, have in press for immediate issue such a collection, made and edited with introduction and notes by Professor J. T. Hatfield, of Northwestern University, Evanston, Ill.

D. C. Heath & Co., Publishers, Boston, have in press an edition of Scribe's *Le Verre d'Eau*, with introduction and notes by Prof. C. A. Eggert, the well known editor of Racine's "Athalie" and Molière's "Le Misanthrope," issued by the same publishers. This play is probably more frequently put on the stage, in France and elsewhere, than any other of Scribe's dramatic works, and is regarded as one of his most attractive pieces.

In the country life of Missouri James Newton Baskett has the field to himself as a novelist, and there seems to be no lack of readers for fiction dealing with sectional American life. Mr. Baskett's novel "As the Light Led," which was published only a week ago, has just gone into its third thousand. His publishers, the Macmillan Company, had an unusual success last year with his first book "At You-All's House," and his present story bids fair to give him the same kind of a reputation for work in his own field that Miss Wilkins has in hers.

The Macmillan Company have in press a work on Historical Jurisprudence by Guy Carleton Lee of the historical department of Johns Hopkin's University. It is intended to serve as an introduction to the systematic study of the growth of law. The contributions of each race to the science of jurisprudence are traced from the earliest records that have come to light in the valleys of the Euphrates, the Tigris, and the Nile. The contributions to the science of law made by each people are clearly traced; not merely as laws, but as fundamental components of national life. Law is treated from its historic, social and economic standpoint, and it is shown that a nation's law must be studied if its progress and status would be understood. The author has based his work on original research. The contract-tablets, the papyri, the monuments and ancient records have been the foundations of the volume, and while several hundred citations enrich the volume, it is original in treatment and conception.

ANSWERS TO STATE QUESTIONS.

READING.

(Based on the general field of Reading.)

(Any five.)

1. Can a pupil in reading express thought and feeling beyond his own attainments?
2. What is the difference between loudness and intensity of sound?
3. Make a brief statement as to how the following should be read:
 "Yet the ear it fully knows,
 By the twanging
 And the clanging,
 How the danger ebbs and flows;
 Yet the ear distinctly tells,
 In the jangling
 And the wrangling
 How the danger sinks and swells,
 By the sinking and the swelling in the anger of
 Of the bells (the bells—
 Of the bells, bells, bells—
 In the clamor and the clangor of the bells."
 4. In what consists the pupil's preparation of the reading lesson?
5. Which generally succeed better in reading, girls or boys? Why?
6. What is the effect of declaiming on reading?
7. Read the following to the superintendent:
 "The war that for a space did fail
 Now trebly thundering swelled the gale,
 And—Stanley—was the cry."

(Based on "How to Teach Reading.")

(Any five.)

1. When we come to the higher interpretation of literature, can any mechanical rules essentially help us? Why?
2. What makes it impossible for the pupil to make rapid progress in good reading?
3. What is the "central idea" in the following?—
 "No, this was he, Messala,
 But Cassius is no more—O setting sun!
 As in thy red rays thou dost sink to-night,
 So in his red blood Cassius' day is set;
 The sun of Rome is set; our day is gone!
 Clouds, dews and dangers come; our deeds are done!
 Mistrust of my success hath done this deed."
 4. What emotions are proper to each of the three stanzas following?—
 (a) On Linden when the sun was low,
 All bloodless lay the untrodden snow
 And dark as winter was the flow
 Of Isar rolling rapidly.
 (b) The combat deepens. On, ye brave,
 Who rush to glory or the grave!
 Wave, Munich! all thy banners wave,
 And charge with all thy chivalry.

(c) Few, few shall part where many meet;
 The snow shall be their winding sheet,
 And every turf beneath their feet
 Shall be a soldier's sepulcher.

5. Would you ever call the attention of the pupil to the punctuation marks, as such?
6. Is the schoolroom adapted to the development of the higher emotions? Why?
7. Read the following to the Superintendent:
 "If I were an American, as I am an Englishman, while a foreign troop was landed in my country, I never would lay down my arms; never! never! never!"

Answers.

(Based on the general field of reading.)

1. Only through the power of imitation, and in this he would not experience the feeling. Only its mechanical manifestations would be present.

2. Loudness is frequently mere noise without a particle of expression in it, and effective only in overcoming distance; and there is a loudness that carries with it much energy and expression; but intensity of sound may be given in a whisper, and so forceful that it may be heard distinctly throughout a large room. It is well to remember that sound can be produced with great force in a whisper as well as in a shout.

3. It should be read with the greatest care as to enunciation, this selection requiring more than the usual amount of attention to this element. The rate of movement should be medium, or even slower. The tone for this particular paragraph should be full, round, rich and dignified.

4. First, a mastery of the story, or of the chain of ideas and their relations and dependences. Second, a mastery of the elements that aid in the oral expression, such as pronunciation, pauses, phrasing, rate, etc.

5. Generally, girls succeed better. *Why* they do, lies largely in the differences between their home training. Generally, the boy is allowed a looser rein and a larger field. His child life is not so closely related to home oversight, to company, etc., as that of his sister, who is mistakenly regarded as more delicate and refined. The girl in her home life is led to take a great interest in books, in reciting "pieces," etc., and early acquires the self-control and confidence necessary to stand before an audience. The boy, in his outdoor life, is led by his contact with other boys to disregard reading and "reciting" and to look upon the latter especially as belonging to the province of girls.

These differences in habits and life extending through several years, have a general tendency to produce diffidence and embarrassment in the boy, and confidence and self control in the girl. The boy frequently overcomes his hindrances and proves himself a worthy competitor for honors; but the fact remains that in school life, the girls, through the influences that come from the differences between their training and that of the boys, in general, read better than the boys.

6. If the declamation is of the right kind, the influence is beneficial.

(Based on "How to Teach Reading.")

1. They can not, for the interpretation is dependent upon the power of seeing the relations among the ideas, and this power is gained by its proper cultivation through a period of years. Nothing mechanical can aid us in this.

2. Because good reading is dependent upon breadth of culture and power of interpretation, and these do not "grow in a night;" they are slowly developed through years of training and study.

3. The central idea is the downfall of the Roman republic; it is presaged by the death of Cassius and illustrated by the setting sun and the general gathering of elements destructive of the then condition of affairs.

4. (a) Seriousness, expectancy; (b) excitement, eagerness, determination, patriotism; (c) pathos, sorrow.

5. Certainly, for sometimes they represent rhetorical pauses as well as grammatical divisions.

6. It is not, for the presence of other pupils is a hindrance to all the best work that can be done in any class exercise.

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PHYSIOLOGY AND SCIENTIFIC TEMPER- ANCE.

(Any seven.)

1. Describe the act of breathing, giving causes for each respiration.
2. How should a schoolroom be ventilated?
3. Of what aid is the study of anatomy to the comprehension of hygiene?
4. Name what seems to you the five most important topics in hygiene.
5. What are the functions of the spinal cord?

6. What is pain? What is its use?
7. What causes myopia?
8. Describe the spinal column and state its uses.
9. What causes coagulation of the blood?
(b) What is the use of coagulation?

Answers.

1. "In ordinary breathing, the diaphragm, contracting, lowers the floor of the thoracic cavity; the external intercostals raise the ribs and extend its walls. The pressure of the air drives the walls of the lungs after these retreating walls, thus increasing the amount of air in the lungs. These acts constitute *inspiration*.

"Immediately following this the abdominal muscles contract and force the contents of the abdomen against the diaphragm, which elevates it against the lungs. The cartilages of the ribs, together with the weight of the ribs and the other things attached to them, depress them, which action compresses the lungs. This is *expiration*."

2. By driving out the old air and by the introduction of fresh air; this can be well done if the heating is done by means of a hot-air furnace with its special arrangements of ventilating openings near the floor. (Read pages 175 and 176, text-book.)

3. The anatomy gives the nature, structure and relations of parts, knowledge very necessary in determining how best to care for them. By it we are often guided in dealing with a broken bone, a lacerated artery, or any diseased part that is invisible; and the nature of any part also determines largely the nature of its care or treatment. A clear understanding of the mucous membrane of the nose teaches us that we should breathe through that organ; numerous other illustrations could be given.

4. The care of the nervous system; of the stomach; of the eyes; of the lungs; and of the skin.

5. The functions of the spinal cord are:
(a) Its *conducting power*, by means of the white fibres that make up the outer part of the cord
(b) Its *power of reflex action*, by means of the gray matter that makes up the inner part of the cord.

6. Pain is the result of excessive stimulation of the nerves of general sensibility. (Read page 252, text-book.) Its use is to aid us from becoming destroyed. By means of its sensations we are driven to remove cinders from the eye; to avoid degrees of heat or of cold that are injurious, to avoid a fall, a blow, and innumerable other conditions that are hurtful or destructive.

7. Myopia is caused chiefly by making an undue demand upon the eye. It is caused in school children by their holding the book too close to the face, or by their holding the face too close to the desk. Sometimes it is inherited.

8. (Read pages 34 and 35, in text-book.) The spinal column (a) supports the head, (b) allows freedom of movement, (c) furnishes attachment for muscles, and (d) serves to protect the spinal cord.

9. The coagulation of the blood is due to the formation in the blood, after it is drawn from the body, of a proteid substance called *fibrin*, made up of a network of fine white threads running in every direction through the plasma. The use of coagulation is to prevent excessive bleeding. (Read pages 74 and 75.)

SCIENCE OF EDUCATION.

(Any five.)

1. Describe the plan given in "Organic Education" for telling a story to the children.
2. According to the author of "Organic Education," the main characteristics of an effective sequence in the use of the story are five. Define each of the first two of these—completeness and unity.
3. What does the principle of selection require the teacher to do?
4. What are the requirements of proportion?
5. Give an example to show how the principle of progressive order would be observed.
6. In leading a child to acquire a general idea, the teacher may set before him a number of particulars, and induce him to make the conclusion himself; or, he may be required to learn a statement of the general truth and then led to consider examples or instances. Which is the better procedure, and why?
7. Is it possible to train the memory directly? Give reasons for your answer.
8. Define the conscience.
9. What virtues is it possible for the school to lead the child to acquire?
10. How can the schools lead the child to form virtuous habits?

Answers.

1. Read page 32 of "Organic Education."
2. In this connection, *completeness* signifies a "whole round of experience"; and *unity* requires that "a central thought or subject be retained throughout the sequence (Read pages 33 and 34.)

3. The teacher is required to select from the mass of events or circumstances only such as seem of prime importance in maintaining this central idea or thread of the story unbroken.

4. The requirements of proportion are that the facts of secondary importance be reduced to sub-heads under the main points and those of tertiary importance be omitted altogether.

5. See page 37.

6. The first is the better procedure because it is the process of induction.

7. It is, by regular systematic work in accordance with the laws of memory, according to which the memory operates. (See Mental Science for these laws.)

8. Conscience is the power or faculty in man by which he distinguishes between right and wrong in conduct and character, and which imperatively commands and obligates him to do the right and abstain from doing the wrong.

9. The virtues of industry, truthfulness, neatness, politeness, forbearance, promptness, etc.

10. (a) Let those in charge see to it that their everyday lives exhibit concrete examples of virtuous habits; (b) let the child be led to see that such habits lie at the basis of real success and true happiness.

GEOGRAPHY.

(Any seven, not omitting 10.)

1. In what respect does the Sahara differ from the Soudan?
2. Write a few lines on Madagascar.
3. What are the chief exports of Australia?
4. Do you consider geography a science? Why?
5. State briefly what pupils should know of geography before using a text-book on the subject.
6. How much time is required to travel from New York to San Francisco? From New York to London?
7. Why is it so much colder on the coast of Labrador than at Sitka, both in the same latitude?
8. What are the exports from Alaska?
9. What two States of the Union lead in the production of cattle? Hogs?
10. What are the essential provisions of Indiana's truancy law?

Answers.

1. The Sahara is a great desert about 3,000 miles long and 900 miles wide. It presents a

great variety in its form and characteristics. On its large area but little rain falls. Most of it consists of a vast tract of shifting sand. Parts consist of a kind of soil mixed with rocks or boulders. And there are many large oases containing life, vegetable and animal.

The Soudan is south of the Sahara and is within the region of equatorial rains, abundant in the northern portion and decreasing toward the border of the Sahara. The Soudan in many parts is very fertile and is thickly inhabited. Recently it has been largely appropriated by European powers. The southern part is heavily forested. Northward the trees gradually give way to grassy plains which finally merge into the desert.

2. Madagascar is an island in the Indian Ocean, a thousand miles long and two hundred in average width. It has a mountainous core rising to nearly 9,000 feet in height and enclosed by plains traversed by lower mountains. A belt of dense forests surrounds the inner core. Rain falls most abundantly on the east coast, where accordingly the vegetation is most luxuriant, but where the climate of the plains is fatal to Europeans. In the southwest are steppes similar to those of inner Africa, but without any of the antelopes and other large mammals of that continent, a proof that the island must have been separated from the mainland from a comparatively remote geological period. Rice and manioc are the principal food products. The ruling tribe is that of the Hovas, who belong to the Malay family, and accordingly have immigrated from Southern Asia. The earlier inhabitants, belonging to African races, are chiefly found in the outer parts of the island. The whole island is now under French protection. The capital of the country is Antananarivo, in the interior highlands.

3. The chief exports of Australia are wool, gold, and grain.

4. Since a science denotes a systematic and orderly arrangement of knowledge, and since geography consists of facts, among which exist relations, dependencies and laws, geography may be defined as the science of the world and its inhabitants.

5. They should have quite a thorough knowledge of size, form, color, distance, and direction; of the natural features, ponds, etc.; of their own home productions—vegetation, animals, minerals; and of their own township and county. They should also know some of the general facts

in regard to air, wind, dew, clouds, etc. Also from the globe let them be taught the form of the earth, and the form and relative size of the continents, their position on the globe, and the relative amounts of land and water.

6. It requires 98 hours and 45 minutes to go by rail without accident from New York to San Francisco. It requires between 5 and 6 days to go from New York to London by steamer.

7. The temperature along the coast of Labrador is much influenced by the ocean current that comes from the north and flows along the coast. The high latitude makes it naturally cold; and the influence of this current makes the cold very severe. The temperature of Sitka is much moderated by the influence of the waters of the "Japan current" that has part of its course along the shore of Alaska.

8. Gold, furs and fish.

9. Texas and Iowa lead in the production of cattle; Iowa and Illinois lead in the production of hogs.

10. (See Truancy Law.)

HISTORY.

(Any six.)

1. Why was *America* so called? Discuss the subject of injustice to Columbus in so naming this continent.
2. (a) What three forms of government existed in the English colonies in North America?
(b) Describe one of these forms and state what colonies were so governed.
3. What distinguished English statesmen opposed the policy pursued toward the colonists by the English Government?
4. What was the Louisiana Purchase? When made and what was the consideration?
5. State briefly the history of the dispute with Great Britain regarding the Oregon Territory.
6. What States passed ordinances of secession and joined in the attempt to organize a Southern Confederacy?
7. What were the terms of the treaty of peace between the United States and Spain at the close of the Spanish-American War?

Answers.

1. An Italian named Americus Vesputius visited the northern coast of South America in 1499, 1501 and 1503. In 1504 he wrote a brief

account of his voyages, which fell into the hands of a German named Waldseemuller, a teacher of geography in the college of St. Die, a village of Lorraine, now included in Eastern France. This teacher printed a small Latin pamphlet entitled "An Introduction to Geography," in which he put the account of the voyages of Vesputius, and a suggestion that the land he discovered be called America.

It is not believed that Waldseemuller designed to detract from the honor of Columbus. He knew doubtless that Columbus had discovered some islands that should bear his name, but he probably knew nothing about his having seen South America in 1498, for very little was said about it at the time. The name "America" was first applied to South America. Later, when it became certain that the American continents were one and not connected with Asia, the name was applied to all the New World.

2. Three forms of government were in force in the colonies in 1763, namely, government *by charter* (Massachusetts, Connecticut and Rhode Island), *by proprietaries* (Pennsylvania, Delaware and Maryland), and *by the Crown* in the remaining seven provinces.

Government under proprietors means simply government by governors and councils appointed by the proprietors, with, in all cases, a full right on the part of the people to control the government through representative assemblies. The native proprietors, like the great public proprietor, the Crown, granted charters to their colonies. The charter which Penn bestowed upon Pennsylvania is distinguished as one of the best conceived and most liberal charters of the time; and under it his colony certainly enjoyed as good government as most of the colonies could secure.

3. Burke, Fox, Pitt, and Barre.

4. See text-book, page 204, paragraph 215.

5. The American claim to the disputed territory in Oregon Territory was based (a) on the voyage of exploration by Capt. Robert Gray, of Boston, who entered the mouth of the river, which he named the Columbia, in 1792; (b) on the march of exploration by Lewis and Clark, in 1804, 1805 and 1806, in which they traveled overland from St. Louis, Mo., to the mouth of the Columbia River; (c) on the assignment under the Florida treaty of whatever rights the Spaniards might have gained by discovery and exploration; and (d) on actual settlement.

The British claim to the same territory was based (a) on the voyage of Drake; (b) on the idea that no value should be attached to the rights of the Spanish, in view of an agreement as to this coast, known as the Nootka treaty; (c) on the exploration of an English navigator who had followed Gray from information furnished by the Americans, (d) and on the occupation of the country by British fur-trading companies. Through the efforts of Dr. Marcus Whitman (read paragraphs 287 and 288, in text-book) our country became alive to the importance of an early settlement as favorable as possible to the United States.

6. See map in text-book following page 292.

7. Briefly, the terms were as follows: Spain (1) relinquished all claim to Cuba; (2) ceded to the United States Porto Rico and the other Spanish islands in the West Indies, and the island of Guam in the Ladrone; (3) ceded to the United States the Philippine Islands, and surrendered all claims against that archipelago for the sum of \$20,000,000.

ARITHMETIC.

1. An article that cost \$3.80 was sold for \$4.32. What was the gain per cent.?
2. Add 358341; 100129; 777777; 896678; 222222;
139864; 786341; 343434; 798908; 344567;
321116; 699999; 111111; 321123; 555555;
3. A merchant sells goods to a customer at a profit of 60%, but the buyer becomes bankrupt and pays only 70 cents on the dollar: what per cent. does the merchant gain or lose on the sale?
4. A vessel holds $2\frac{1}{2}$ qts. How many times can it be filled from a barrel containing $31\frac{1}{2}$ gals. of oil? After filling the vessel as often as possible, how much oil will remain in the barrel? What fraction of a vesselful will this remaining quantity be?
5. What is the surface of a globe whose radius is 9?
6. By how long a tether must a cow be bound in order to graze over exactly one acre of ground?
7. *Algebra*—The difference between the squares of two consecutive numbers is 15. What are the numbers?

Answers.

1. $\$4.32 - \$3.80 = \$0.72$, gain; $72 \div 3.80 = .2 = .20 = 20\%$.
2. The sum is 6775165.
3. $100\% \text{ (cost)} + 60\% \text{ (gain)} = 160\% \text{ selling price}$; $70\% \text{ of } 160\% = 112\%$, what the bankrupt really paid; $112\% - 100\% = 12\%$, the gain.

4. 54 times, with $1\frac{2}{3}$ qt. remaining in the barrel, and this amount is $\frac{1}{3}$ of a vesselful.

5. $(9 \times 2)^2 \times .7854 \times 4 = 1017.8784$ area.

6. 1 acre = 160 sq. rds., the area of the circle grazed over; $160 \div .7854 = 203.7178$ +; the square root of $203.7178 = 14.27$ +; $14.27 \div 2 = 7.13$; hence the rope must be 7.13 rds. long.

7. Let x = one number and $x + 1$ be the other; $(x + 1)^2 - x^2 = 15$; $2x + 1 = 15$; $2x = 14$; $x = 7$; $x + 1 = 8$; hence 7 and 8 are the numbers.

GRAMMAR.

(Any seven not omitting 8 and 10.)

Within our beds awhile we heard
The wind that round the gables roared,
With now and then a ruder shock,
Which made our very bedsteads rock.
We heard the loosened clapboards tost,
The board-nails snapping in the frost;
And on us, through the unplastered wall,
Felt the light sifted snow-flakes fall.—Whittier.

1. Name the words between which the following prepositions show relation: (a) "Within"; (b) "With"; (c) "on"; (d) "through."
2. (a) Classify all the verbs as transitive or intransitive.
(b) Give the principal parts of "heard," "made," "felt."
3. Select the infinitives and give the case of each, stating why each is in that case.
4. Parse (a) "that"; (b) "now and then"; (c) "bedsteads"; (d) "snow-flakes."
5. Name the modifiers of "heard" (line 1).
Name the modifiers of "heard" (line 5).
6. Classify the clauses into principal and subordinate and name the subjects of each.
7. Select (a) an adjective in the positive degree;
(b) one in the comparative degree.
(c) Express the thought of the first clause using the passive voice of the verb.
Describe the changes you made.
8. In what grade would you begin the analysis of sentences? Why?
9. For what reasons is the attempt to teach grammar by one who has never mastered the subject to be deprecated?
10. Write about 100 words on one of the following subjects, expecting that your efforts will be criticised on all the features that characterize a well written composition:

(a) Our New Possessions.

(b) House Cleaning.

(c) Does the World Owe Me a Living?

Answers.

1. (a) *beds* and *we*; (b) *shock* and *roared*; (c) *us* and *fall*; (d) *wall* and *fall*. [Some would answer (a) *beds* and *heard*.]

2. (a) Transitive: heard; made; heard; felt. Intransitive: roared. (b) hear, heard, heard; make, made, made; feel, felt, felt.

3. "To rock" is in the objective case, the attributive object of "made;" "to fall" is in the objective case, the attributive object of "felt."

4. "That" is a relative pronoun, subject of "roared," and relates to "wind;" (b) "now and then" is an adverbial phrase and modifies "roared;" (c) "bedsteads" is in the objective case, governed by "made;" (d) "snow-flakes" is in the objective case, governed by "felt." [The last two are sometimes called objective subjects of infinitives.]

5. (a) awhile; wind. (b) clapboards-tost; board-nails snapping. [To (a) none would add "within our beds."]

6. (a) Principal—"we heard;" first subordinate—"that roared;" second subordinate—"which made."

(b) Principal—"we heard and felt." The subjects are italicized.

7. (a) Light; (b) ruder; (c) the wind—was heard—by us. The object of the given sentence is made the subject, and the real subject becomes the object of the preposition *by*.

8. In grade five of an eight grade course, for the nature of the work, if presented properly, analytically and synthetically, is within the comprehension of the pupils of that grade, and a knowledge of the construction of easy sentences is helpful at this stage in composition work, and in the study of the reading lesson.

9. For the general reason that no subject can be taught in the best manner unless the teacher has a broad and comprehensive knowledge of it; and for the special reason that error will be taught by the teacher who is not proficient.

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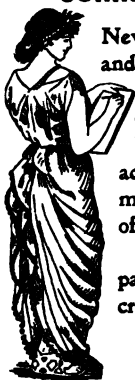
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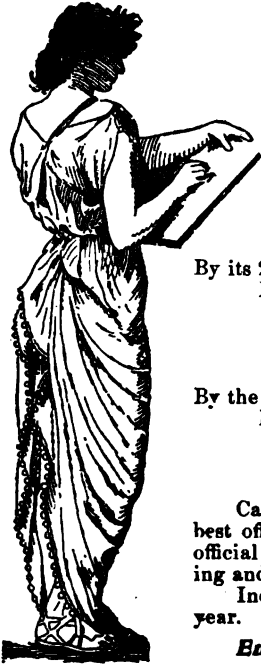
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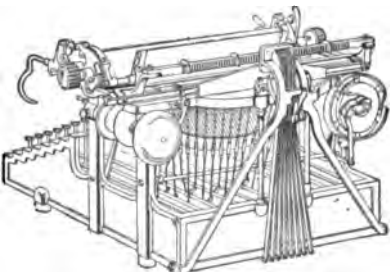
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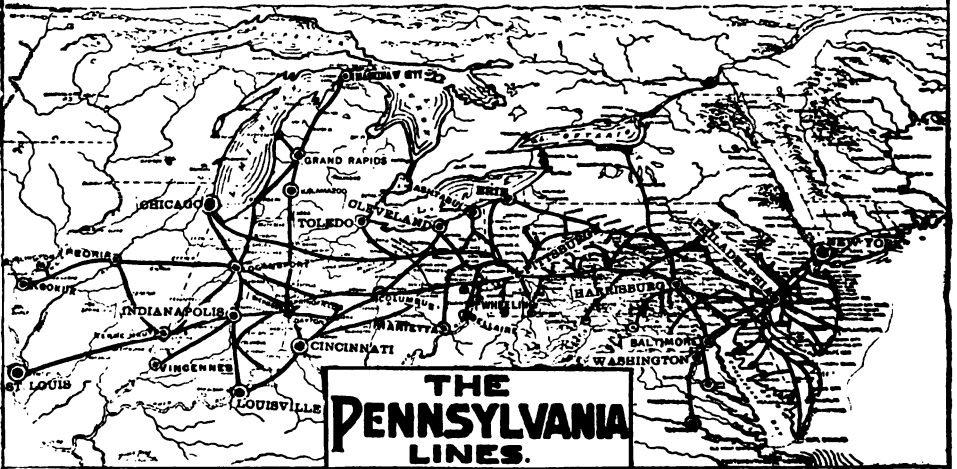
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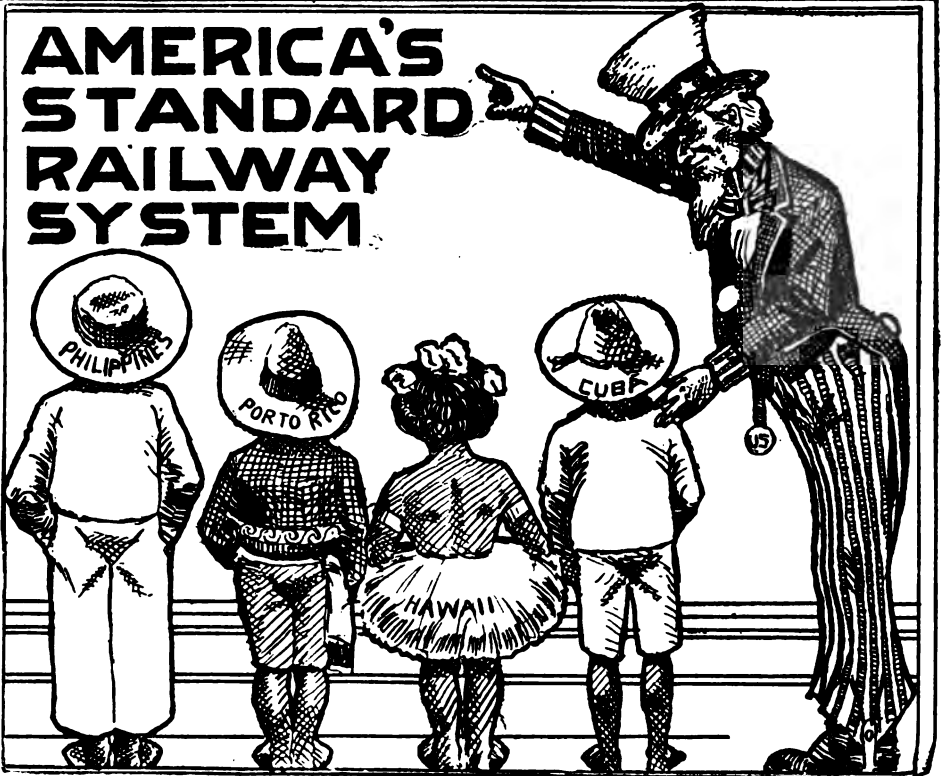
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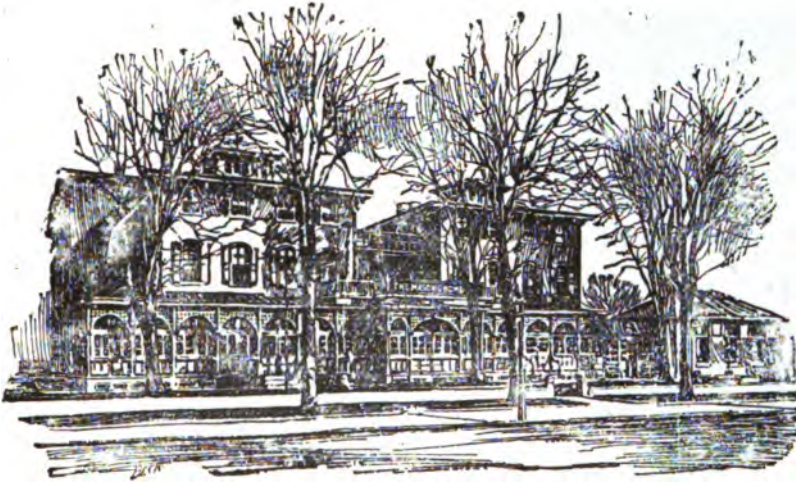
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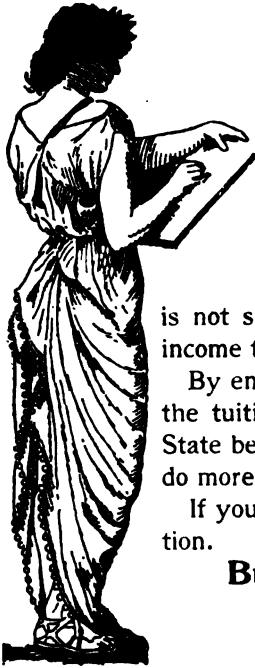


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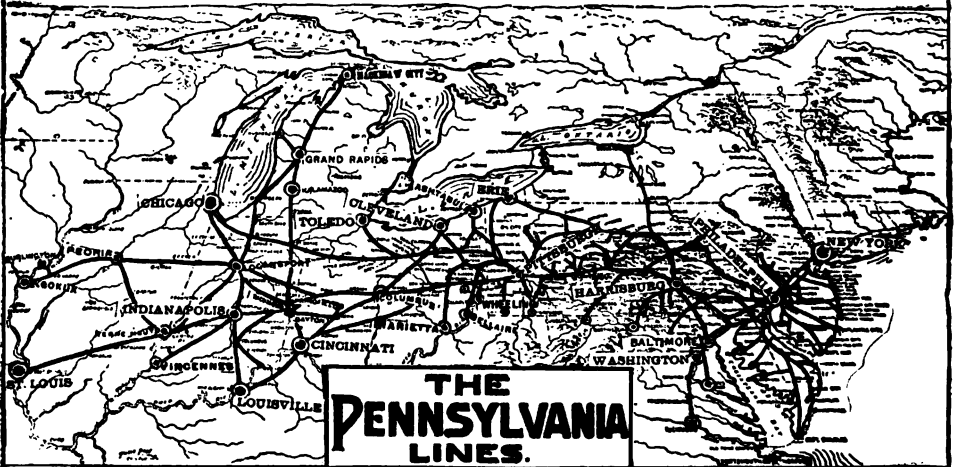
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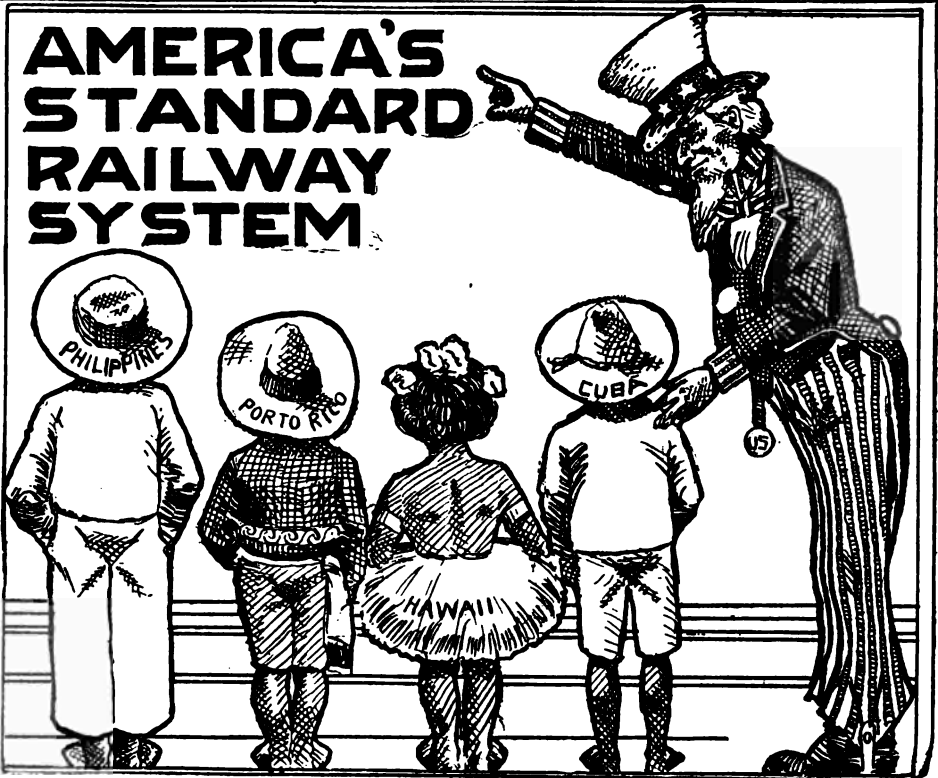
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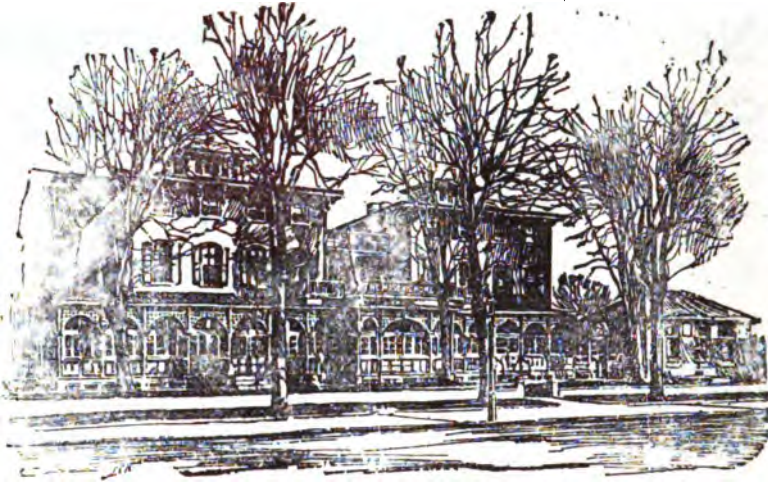
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
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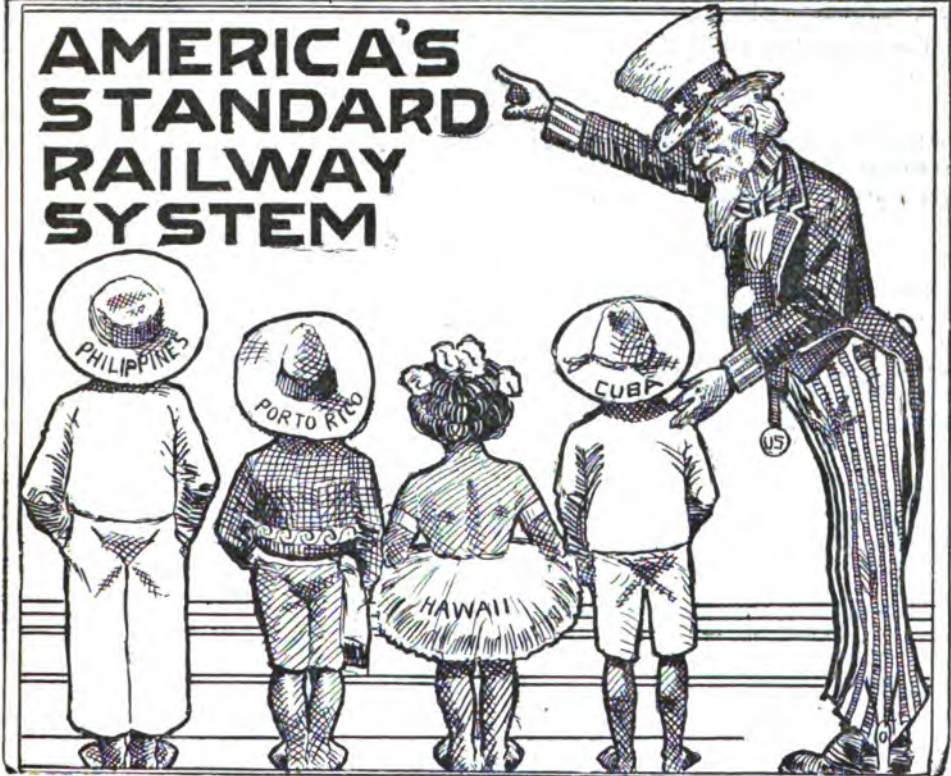
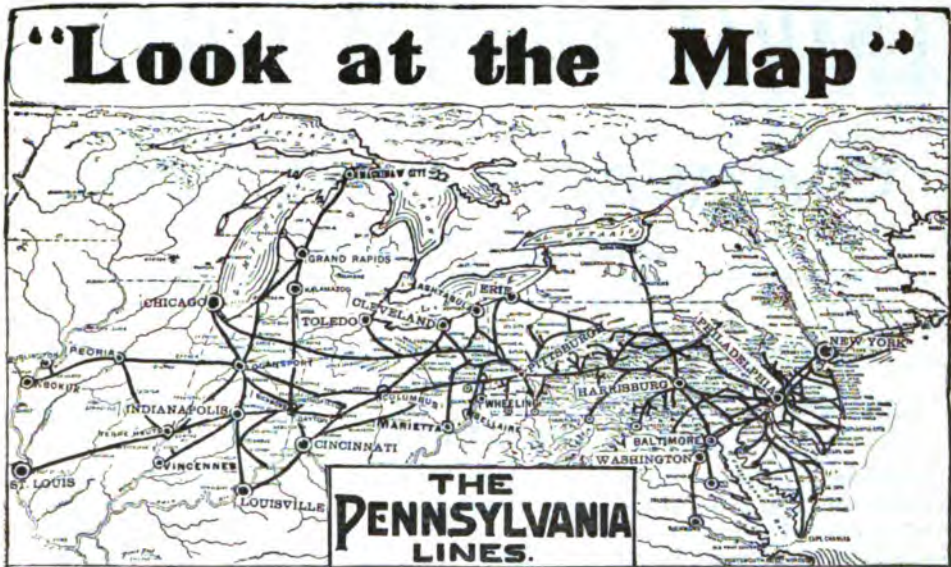
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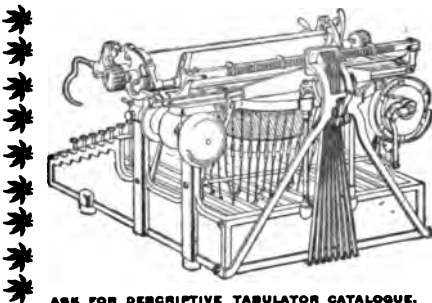
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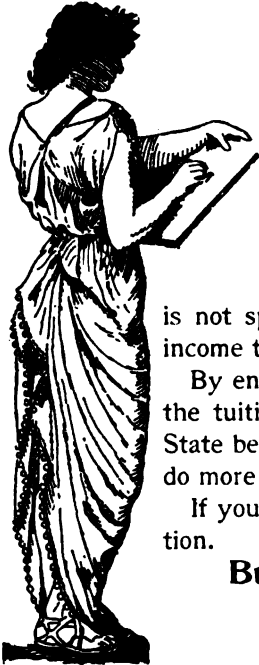
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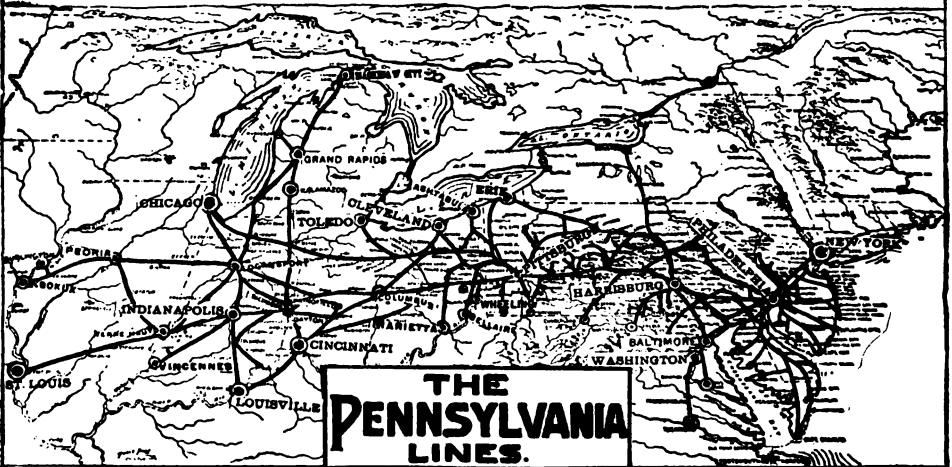
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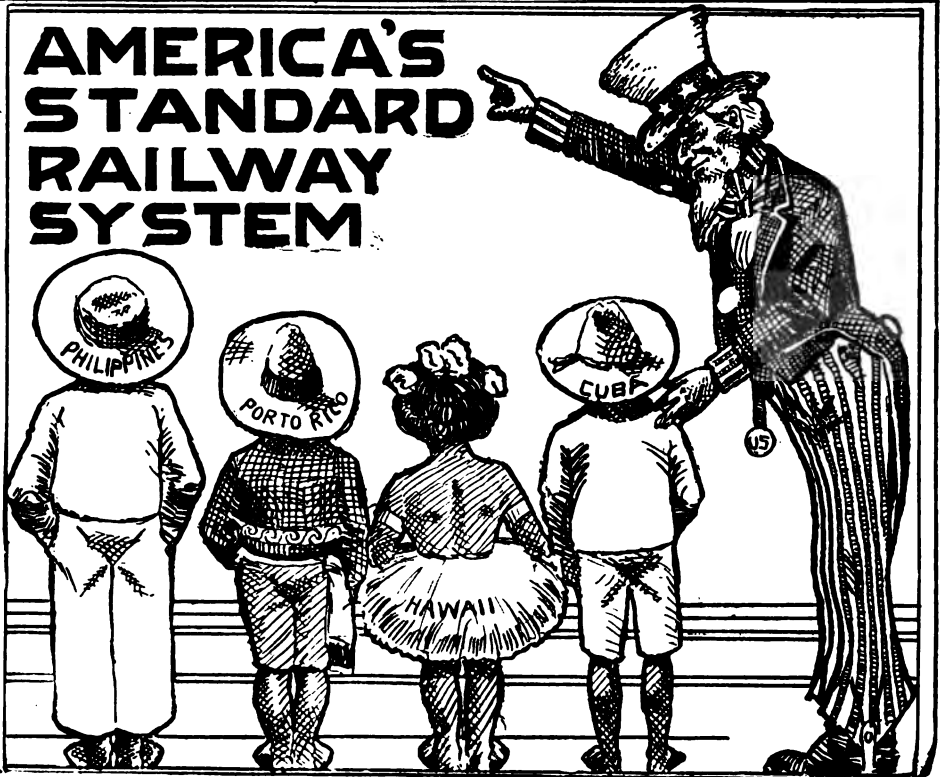
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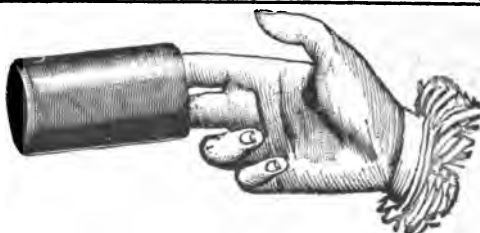
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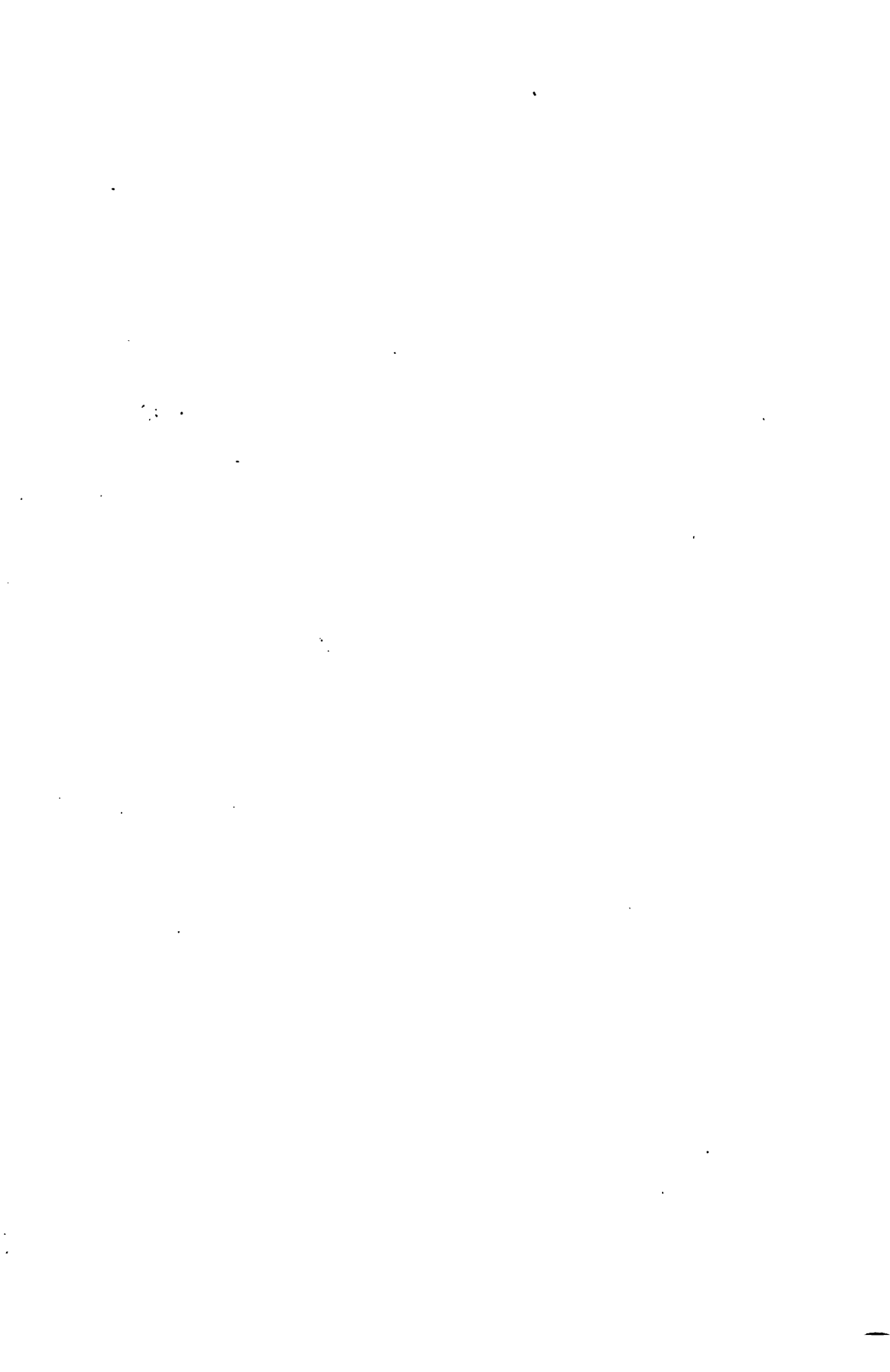
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